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By CHARLES W. DIFFIN

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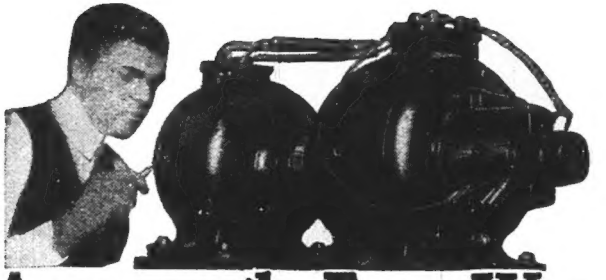

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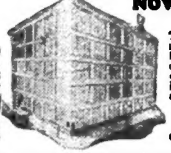

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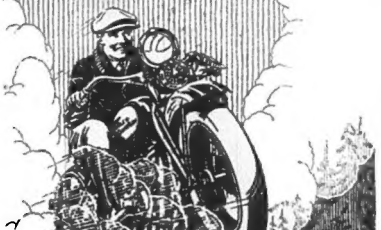

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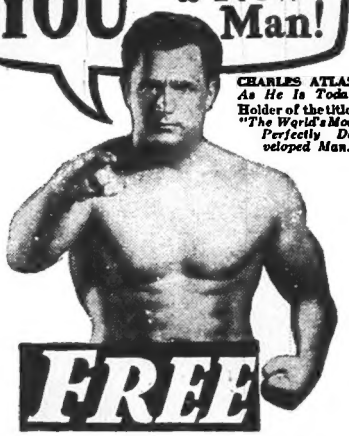

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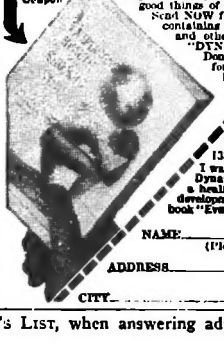

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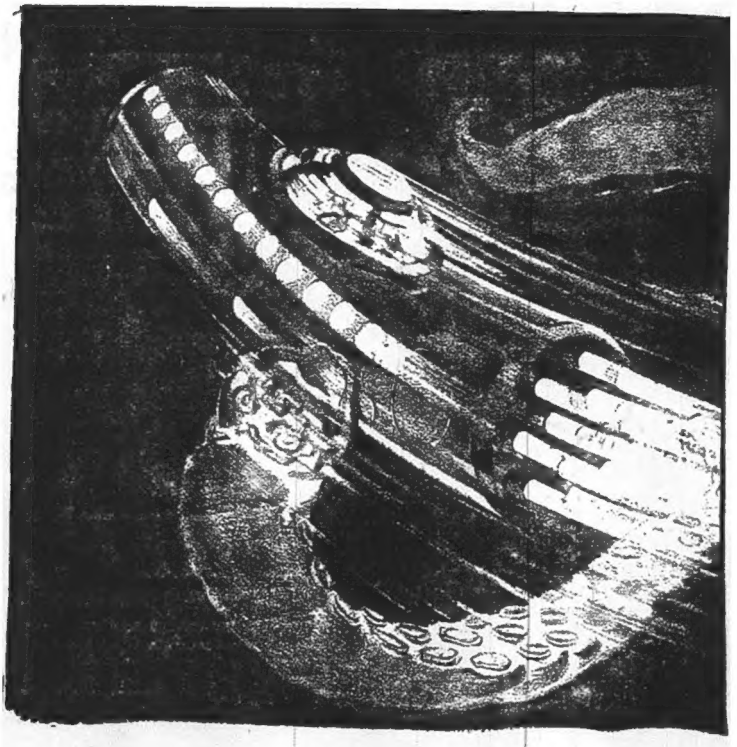


Dark Moon

A COMPLETE NOVELETTE

By Charles W. Diffin

CHAPTER I

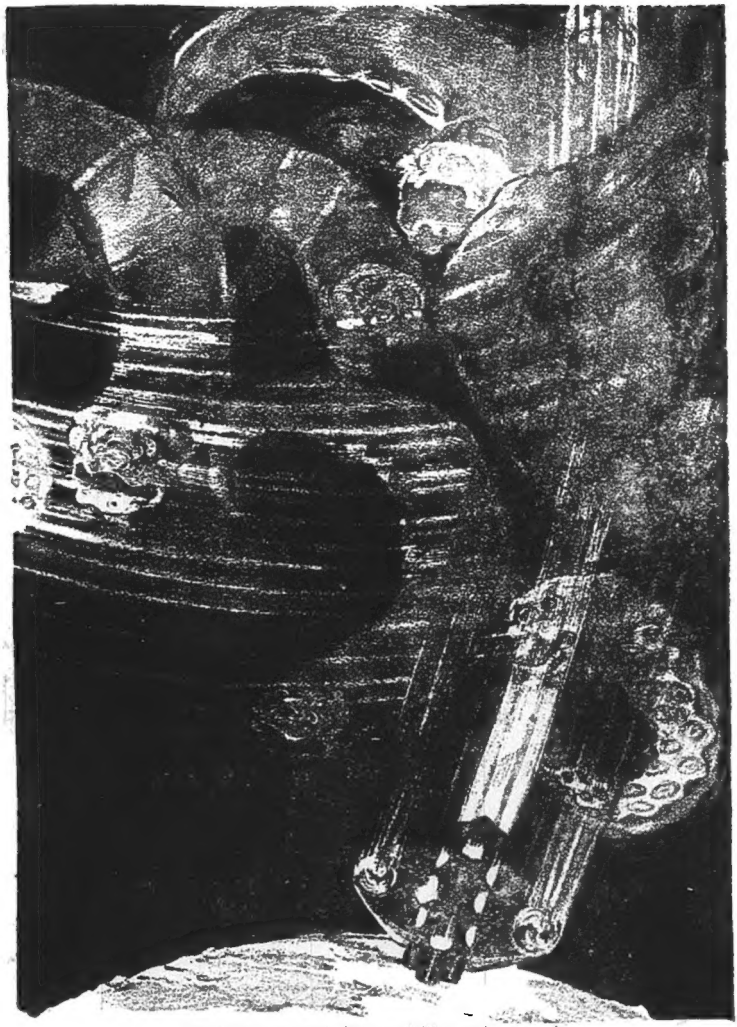
There Comes a New World

THE one hundred and fifty-ninth floor of the great Transportation Building allowed one standing at a window to look down upon the roofs of the countless buildings that were New York.

Flat-decked, all of them; busy places of hangars and machine shops and strange aircraft, large and small, that rose vertically under the lift of flashing helicopters.

The air was alive and vibrant with directed streams of stubby-winged shapes that drove swiftly on their way, with only a wisp of vapor from their funnel-shaped sterns to mark the continuous explosion that propelled them. Here and

Mysterious, dark, out of the unknown deep comes a new satellite to lure three courageous Earthlings on to strange adventure.



Behind them a red ship was falling—falling free!

there were those that entered a shaft of pale-blue light that somehow outshone the sun. It marked an ascending area, and there ships canted swiftly, swung their blunt noses upward, and vanished to the upper levels.

A mile and more away, in a great shaft of green light from which all other craft kept clear, a tremendous shape was dropping. Her hull of silver was striped with a broad red band; her multiple helicopters were dazzling flashes in the sunlight. The

countless dots that were portholes and the larger observation ports must have held numberless eager faces, for the Oriental Express served a cosmopolitan passenger list.

But Walter Harkness, standing at the window, stared out from troubled, frowning eyes that saw nothing of the kaleidoscopic scene. His back was turned to the group of people in the room, and he had no thought of wonders that were prosaic, nor of passengers, eager or blase; his thoughts were only of freight and of the acres of flat roofs far in the distance where alternate flashes of color marked the descending area for fast freighters of the air. And in his mind he could see what his eyes could not discern — the markings on those roofs that were enormous landing fields: Harkness Terminals, New York.

ONLY twenty-four, Walt Harkness—owner now of Harkness, Incorporated. Dark hair that curled slightly as it left his forehead; eyes that were taking on the intent, straightforward look that had been his father's and that went straight to the heart of a business proposal with disconcerting directness. But the lips were not set in the hard lines that had marked Harkness Senior; they could still curve into boyish pleasure to mark the enthusiasm that was his.

He was not typically the man of business in his dress. His broad shoulders seemed slender in the loose blouse of blue silk; a narrow scarf of brilliant color was loosely tied; the close, full-length cream-colored trousers were supported by a belt of woven metal, while his shoes were of the coarse-mesh fabric that the latest mode demanded.

He turned now at the sound of Warrington's voice. E. B. Warrington, Counsellor at Law, was the name that glowed softly on the door of this spacious office, and Warrington's gray head was nodding as he dated and indexed a document.

"June twentieth, nineteen seventy-three," he repeated; "a lucky day for you, Walter. Inside of ten years this land will be worth double the fifty million you are paying—and it is worth more than that to you."

He turned and handed a document to a heavy-bodied man across from him. "Here is your copy, Herr Schwartzmann," he said. The man pocketed the paper with a smile of satisfaction thinly concealed on his dark face.

HARKNESS did not reply. He found little pleasure in the look on Schwartzmann's face, and his glance passed on to a fourth man who sat quietly at one side of the room.

Young, his tanned face made bronze by contrast with his close-curling blond hair, there was no need of the emblem on his blouse to mark him as of the flying service. Beside the spread wings was the triple star of a master-pilot of the world; it carried Chet Bullard past all earth's air patrols and gave him the freedom of every level.

Beside him a girl was seated. She rose quickly now and came toward Harkness with outstretched hand. And Harkness found time in the instant of her coming to admire her grace of movement, and the carriage that was almost stately.

The mannish attire of a woman of business seemed almost a discordant note; he did not realize that the hard simplicity of her costume had been saved by the soft warmth of its color, and by an indefinable, flowing line in the jacket above the rippling folds of an undergarment that gathered smoothly at her knees. He knew only that she made a lovely picture, surprisingly appealing, and that her smile was a compensation

for the less pleasing visage of her companion, Schwartzmann.

"Mademoiselle Vernier," Herr Schwartzmann had introduced her when they came. And he had used her given name as he added: "Mademoiselle Diane is somewhat interested in our projects."

She was echoing Warrington's words as she took Harkness' hand in a friendly grasp. "I hope, indeed, that it is the lucky day for you, Monsieur. Our modern transportation—it is so marvelous, and I know so little of it. But I am learning. I shall think of you as developing your so-splendid properties wonderfully."

ONLY when she and Schwartzmann were gone did Harkness answer his counsellor's remark. The steady Harkness eyes were again wrinkled about with puckering lines; the shoulders seemed not so square as usual.

"Lucky?" he said. "I hope you're right. You were Father's attorney for twenty years — your judgment ought to be good; and mine is not entirely worthless.

"Yes, it is a good deal we have made—of course it is!—it bears every analysis. We need that land if we are to expand as we must, and the banks will carry me for the twenty million I can't swing. But, confound it, Warrington, I've had a hunch—and I've gone against it. Schwartzmann has tied me up for ready cash, and he represents the biggest competitors we have. They're planning something — but we need the land. . . . Oh, well, I've signed up; the property is mine; but. . . ."

The counsellor laughed. "You need a change," he said; "I never knew you to worry before. Why don't you jump on the China Mail this afternoon; it connects with a good line out of Shanghai. You can be tramping around the Himalayas to-morrow. A day or two there will fix you up."

"Too busy," said Harkness. "Our experimental ship is about ready, so I'll go and play with that. We'll be shooting at the moon one of these days."

"The moon!" the other snorted. "Crazy dreams! McInness tried it, and you know what happened. He came back out of control—couldn't check his speed against the repelling area—shot through and stripped his helicopters off against the heavy air. And that other fellow, Haldgren—"

"Yes," said Harkness quietly, "Haldgren—he didn't fall back. He went on into space."

"IMPOSSIBLE!" the counsellor objected. "He must have fallen unobserved. No, no, Walter; be reasonable. I do not claim to know much about those things—I leave them to the Stratosphere Control Board—but I do know this much: that the lifting effect above the repelling area—what used to be known as the heaviside layer—counteracts gravity's pull. That's why our ships fly as they please when they have shot themselves through. But they have to fly close to it; its force is dissipated in another ten thousand feet, and the old earth's pull is still at work. It can't be done, my boy; the vast reaches of space—"

"Are the next to be conquered," Harkness broke in. "And Chet and I intend to be in on it." He glanced toward the young flyer, and they exchanged a quiet smile.

"Remember how my father was laughed at when he dared to vision the commerce of to-day? Crazy dreams, Warrington? That's what they said when Dad built the first unit of our plant, the landing stages for the big freighters, the docks for ocean ships while they lasted, the berths for the big submarines that he knew were coming. They jeered at him then. 'Harkness' Folly,' the

first plant was called. And now—well you know what we are doing."

He laughed softly. "Leave us our crazy dreams, Warrington," he protested; "sometimes those dreams come true. . . . And I'll try to forget my hunch. We've bought the property; now we'll make it earn money for us. I'll forget it now, and work on my new ship. Chet and I are about ready for a try-out."

THE flyer had risen to join him, and the two turned together to the door where a private lift gave access to the roof. They were halfway to it when the first shock came to throw the two men on the floor.

The great framework of the Transportation Building was swaying wildly as they fell, and the groaning of its wrenched and straining members sounded through the echoing din as every movable object in the room came crashing down.

Dazed for the moment, Harkness lay prone, while his eyes saw the nitron illuminator, like a great chandelier, swing widely from the ceiling where it was placed. Its crushing weight started toward him, but a last swing shot it past to the desk of the counsellor.

Harkness got slowly to his feet. The flyer, too, was able to stand, though he felt tenderly of a bruised shoulder. But where Warrington had been was only the crumpled wreckage of a steeloid desk, the shattered bulk of the illuminator upon it, and, beneath, the mangled remains where flowing blood made a quick pool upon the polished floor.

Warrington was dead—no help could be rendered there—and Harkness was reaching for the door. The shock had passed, and the building was quiet, but he shouted to the flyer and sprang into the lift.

"The air is the place for us," he said; "there may be more coming." He jammed over the control lever, and the little lift moved.

"What was it?" gasped Bullard, "earthquake? — explosion? Lord, what a smash!"

Harkness made no reply. He was stepping out upon the broad surface of the Transportation Building. He paid no attention to the hurrying figures about him, nor did he hear the loud shouting of the newscasting cone that was already bringing reports of the disaster. He had thought only for the speedy little ship that he used for his daily travel.

THE golden cylinder was still safe in the grip of its hold-down clutch, and its stubby wings and gleaming sextuple-bladed helicopter were intact. Harkness sprang for the control-board.

He, too, wore an emblem: a silver circle that marked him a pilot of the second class; he could take his ship around the world below the forty level, though at forty thousand and above he must give over control to the younger man.

The hiss of the releasing clutch came softly to him as the tree-signal flashed, and he sank back with a great sigh of relief as the motors hummed and the blades above leaped into action. Then the stern blast roared, though its sound came faintly through the deadened walls, and he sent the little speedster for the pale blue light of an ascending area. Nor did he level off until the gauge before him said twenty thousand.

His first thought had been for their own safety in the air, but with it was a frantic desire to reach the great plant of the Harkness Terminals. What had happened there? Had there been any damage? Had they felt the shock? A few seconds in level twenty would tell him. He reached the place of alternate flashes where he could descend, and the little ship fell smoothly down.

Below him the great expanse of buildings took form, and they

seemed safe and intact. His intention was to land, till the slim hands of Chet Bullard thrust him roughly aside and reached for the controls.

It was Bullard's right — a master pilot could take control at any time —but Harkness stared in amazement as the other lifted the ship, then swung it out over the expanse of ocean beyond—stared until his own eyes followed those of Chet Bullard to see the wall of water that was sweeping toward the land.

Chet, he knew, had held them in a free-space level, where they could maneuver as they pleased, but he knew, too, that the pilot's hands were touching levers that swung them at a quite unlawful speed past other ships, and that swept them down in a great curve above the ocean's broad expanse.

HARKNESS did not at once grasp the meaning of the thing. There was the water, sparkling clear, and a monstrous wave that lifted itself up to mountainous heights. Behind it the ocean's blue became a sea of mud; and only when he glanced at their ground-speed detector did he sense that the watery moutain was hurling itself upon the shore with the swiftness of a great super-liner.

There were the out-thrusting capes that made a safe harbor for the commerce that came on and beneath the waters to the Harkness Terminals; the wave built itself up to still greater heights as it came between them. They were riding above it by a thousand feet, and Walter Harkness, in sudden knowledge of what this meant, stared with straining eyes at the wild thing that raced with them underneath.

He must do something—anything! —to check the monster, to flatten out the onrushing mountain! The red bottom-plates of a submarine freighter came rolling up behind the surge to show how futile was the might of man. And the next moment marked the impact of the wall of water upon a widespread area of landing roofs, where giant letters stared mockingly at him to spell the words: Harkness Terminals, New York.

He saw the silent crumbling of great buildings; he glimpsed in one wild second the whirling helicopters on giant freighters that took the air too late; he saw them vanish as the sea swept in and engulfed them. And then, after endless minutes, he knew that Chet had swung again above the site of his plant, and he saw the stumps of steel and twisted wreckage that remained. . . .

THE pilot hung the ship in air— a golden beetle, softly humming as it hovered above the desolate scene. Chet had switched on the steady buzz of the stationary-ship signal, and the wireless warning was swinging passing craft out and around their station. Within the quiet cabin a man stood to stare and stare, unspeaking, until his pilot laid a friendly hand upon the broad shoulders.

"You're cleaned," said Chet Bullard. "It's a washout! But you'll build it up again; they can't stop you—"

But the steady, appraising eyes of Walter Harkness had moved on and on to a rippling stretch of water where land had been before.

"Cleaned," he responded tonelessly; "and then some! And I could start again, but—" He paused to point to the stretch of new sea, and his lips moved that he might laugh long and harshly. "But right there is all I own—that is, the land I bought this morning. It is gone, and I owe twenty million to the hardest-hearted bunch of creditors in the world. That foreign crowd, who've been planning to invade our territory here. You know what chance I'll have with them. . . ."

The disaster was complete, and Walter Harkness was facing it—facing it with steady gray eyes and a mind that was casting a true balance of accounts. He was through, he told himself; his other holdings would be seized to pay for this waste of water that an hour before had been dry land; they would strip him of his last dollar. His lips curved into a sardonic smile.

"June twentieth, nineteen seventy-three," he repeated. "Poor old Warrington! He called this my lucky day!"

THE pilot had respected the other man's need of silence, but his curiosity could not be longer restrained.

"What's back of it all?" he demanded. "What caused it?" The shock was like no earthquake I've ever known. And this tidal wave—" He was reaching for a small switch. He turned a dial to the words: "News Service—General," and the instrument broke into hurried speech.

It told of earth shocks in many places—the whole world had felt it—some tremendous readjustment among the inner stresses of the earth—most serious on the Atlantic seaboard—the great Harkness Terminals destroyed—some older buildings in the business district shaken down—loss of life not yet computed. . . .

"But what *did* it?" Chet Bullard was repeating in the cabin of their floating ship. "A tremendous shake-up like that!" Harkness silenced him with a quick gesture of his hand. Another voice had broken in to answer the pilot's question.

"The mystery is solved," said the new voice. "This is the Radio-News representative speaking from Calcutta. We are in communication with the Allied Observatories on Mount Everest. At eleven P. M., World Standard Time, Professor Boyle observed a dark body in transit across the moon. According to Boyle, a non-luminous and non-reflecting asteroid has crashed into the earth's gravitational field. A dark moon has joined this celestial grouping, and is now swinging in an orbit about the earth. It is this that has disturbed the balance of internal stresses within the earth—"

"A DARK moon!" Chet Bullard broke in, but again a movement from Harkness silenced his exclamations. Whatever of dull apathy had gripped young Harkness was gone. No thought now of the devastation below them that spelled his financial ruin. Some greater, more gripping idea had now possessed him. The instrument was still speaking:

"—Without light of its own, nor does it reflect the sun's light as does our own moon. This phenomenon, as yet, is unexplained. It is nearer than our own moon and smaller, but of tremendous density." Harkness nodded his head quickly at that, and his eyes were alive with an inner enthusiasm not yet expressed in words. "It is believed that the worst is over. More minor shocks may follow, but the cause is known; the mystery is solved. Out from the velvet dark of space has come a small, new world to join us—"

The voice ceased. Walter Harkness had opened the switch.

"The mystery is solved," Chet Bullard repeated.

"Solved?" exclaimed the other from his place at the controls. "Man, it is only begun!" He depressed a lever, and a muffled roar marked their passage to a distant shaft of blue, where he turned the ship on end and shot like a giant shell for the higher air.

There was northbound travel at thirty-five, and northward Harkness would go, but he shot straight up. At forty thousand he motioned the

master-pilot to take over the helm.

"Clear through," he ordered; "up into the liner lanes; then north for our own shop." Nor did he satisfy the curiosity in Chet Bullard's eyes by so much as a word until some hours later when they floated down.

AN icy waste was beneath them, where the sub-polar regions were wrapped in the mantle of their endless winter. Here ships never passed. Northward, toward the Pole, were liner lanes in the higher levels, but here was a deserted sector. And here Walter Harkness had elected to carry on his experiments.

A rise of land showed gaunt and black, and the pilot was guiding the ship in a long slant upon it. He landed softly beside a building in a sheltered, snow-filled valley.

Harkness shivered as he stepped from the warmth of their insulated cabin, and he fumbled with shaking fingers to touch the combination upon the locked door. It swung open, to close behind the men as they stood in the warm, brightly-lighted room.

Nitro illuminators were hung from the ceiling, their diffused brilliance shining down to reflect in sparkling curves and ribbons of light from a silvery shape. It stood upon the floor, a metal cylinder a hundred feet in length, whose blunt ends showed dark openings of gaping ports. There were other open ports above and below and in regular spacing about the rounded sides. No helicopters swung their blades above; there were only the bulge of a conning tower and the heavy inset glasses of the lookouts. Nor were there wings of any kind. It might have been a projectile for some mammoth gun.

Harkness stood in silence before it, until he turned to smile at the still-wondering pilot.

"Chet," he said, "it's about finished and ready—just in time. We've built it, you and I; freighted in the parts ourselves and assembled every piece. We've even built the shop: lucky the big steeloid plates are so easily handled. And you and I are the only ones that know.

"Every ship in the airlanes of the world is driven by detonite—and we have evolved a super-detonite. We have proved that it will work. It will carry us beyond the pull of gravitation; it will give us the freedom of outer space. It is ours and ours alone."

"No," the other corrected slowly, "it is yours. You have paid the bills and you have paid me. Paid me well."

"I'm paying no more," Harkness told him. "I'm broke, right this minute. I haven't a dollar—and yet I say now that poor Warrington was right: this is my lucky day."

HE laughed aloud at the bewilderment on the pilot's face.

"Chet," he said slowly, and his voice was pitched to a more serious tone, "out there is a new world, the Dark Moon. 'Tremendous density,' they said. That means it can hold an atmosphere of its own. It means new metals, new wealth: It means a new little world to explore, and it's out there waiting for us. Waiting for *us*; we will be the first. For here is the ship that will take us.

"It isn't mine, Chet; it's ours. And the adventure is ours; yours and mine, both. We only meant to go a few hundred miles at first, but here's something big. We may never come back—it's a long chance that we're taking—but you're in on it, if you want to go. . . ."

He paused. The expression in the eyes of Chet Bullard, master-pilot of the world, was answer enough. But Chet amplified it with explosive words.

"Am I in on it?" he demanded. "Try to count me out—just try to do it! I was game for a trial flight out

beyond. And now, with a real objective to shoot at—a new world—"

His words failed him. Walt Harkness knew that the hand the other extended was thrust forth blindly; he gripped at it hard, while he turned to look at the shining ship.

But his inner gaze passed far beyond the gleaming thing of metal, out into a realm of perpetual night. Out there a new world was waiting—a Dark Moon!—and there they might find. . . . But his imagination failed him there; he could only thrill with the adventure that the unknown held.

CHAPTER II

Escape

TWO days, while a cold sun peeped above an icy horizon! Two days of driving, eager work on the installation of massive motors—yet motors so light that one man could lift them—then Harkness prepared to leave.

"Wealth brings care when it comes," he told Chet, "but it leaves plenty of trouble behind it when it goes. I must get back to New York and throw what is left of my holdings to the wolves; they must be howling by this time to find out where I am. I'll drop back here in a week."

There were instruments to be installed, and Chet would look after that. He would test the motors where the continuous explosion of super-detonite would furnish the terrific force for their driving power. Then the exhaust from each port must be measured and thrusts equalized, where needed, by adjustment of great valves. All this Chet would finish. And then—a test flight. Harkness hoped to be back for the first try-out of the new ship.

"I'll be seeing you in a week," he repeated. "You'll be that long getting her tuned up."

But Chet Bullard grinned derisively. "Two days!" he replied. "You'll have to step some if you get in on the trial flight. But don't worry: I won't take off for the Dark Moon. I'll just go up and play around above the liner lanes and see how the old girl stunts."

Harkness nodded. "Watch for patrol ships," he warned. "There's no traffic directly over here—that's one reason why I chose this spot—but don't let anyone get too close. Our patents have not been applied for."

HARKNESS spent a day in New York. Then a night trip by Highline Express took him to London where he busied himself for some hours. Next, a fast passenger plane for Vienna.

In other days Walter Harkness would have chartered a private ship to cut off a few precious hours, but he was traveling more economically now. And the representatives of his foreign competitors were not now coming to see him: he must go to them.

At the great terminal in Vienna a man approached him. "Herr Harkness?" he inquired, and saluted stiffly.

He was not in uniform. He was not of the Allied Patrol nor of any branch of the police force that encircled the world in its operations. Yet his military bearing was unmistakable. To Harkness it was reminiscent of old pictures of Prussian days—those curious pictures revived at times for the amusement of those who turned to their television sets for entertainment. He had to repress a smile as he followed where the other led him to a gray speedster in a distant corner of the open concourse.

He stepped within a luxurious cabin and would have gone on into the little control room, but his guide checked him. Harkness was mildly curious as to their course—Schwartzmann was to have seen him in

Vienna—but the way to the instrument board was barred. Another precise salute, and he was motioned to the cabin at the rear.

"It is orders that I follow," he was told. And Walter Harkness complied.

"It could happen only here," he told himself. And he found himself exasperated by a people who were slow to conform to the customs of world whose closely-knit commerce had obliterated the narrow nationalism of the past.

THEY landed in an open court surrounded by wide lawns. He glimpsed trees about them in the dusk, and looming before him was an old-time building of the chateau type set off in this private park. He would have followed his guide toward the entrance, but a flash of color checked him.

Like a streak of flame a ship shot in above them; hung poised near the one that had brought them and settled to rest beside it. A little red speedster, it made a splash of crimson against the green lawns beyond. And, "Nice flying," Harkness was telling himself.

The hold-down clamps had hardly gripped it when a figure sprang out from an opened door. A figure in cool gray that took warmth and color from the ship behind—a figure of a girl, tall and slender and graceful as she came impulsively toward him.

"Monsieur Harkness!" she exclaimed. "But this is a surprise. I thought that Herr Schwartzmann was to see you in Vienna!" For a brief moment Harkness saw a flicker of puzzled wonderment in her eyes.

"And I am sorry," she went on, "—so very sorry for your misfortune. But we will be generous."

She withdrew her hand which Harkness was holding. He was still phrasing a conventional greeting as she flung him a gay laugh and a look from brown eyes that smiled encouragement. She was gone before he found words for reply.

Walter Harkness had been brought up in a world of business, and knew little of the subtle message of a woman's eyes. But he felt within him a warm response to the friendly companionship that the glance implied.

Within the chateau, in a dark-paneled room, Herr Schwartzmann was waiting. He motioned Harkness to a chair and resumed his complacent contemplation of a picture that was flowing across a screen. Color photography gave every changing shade. It was coming by wireless, as Harkness knew, and he realized that the sending instrument must be in ship that cruised slowly above a scene of wreckage and desolation.

He recognized the ruins of his great plant; he saw the tiny figures of men, and he knew that the salvage company he had placed in charge was on the job. Beyond was a stretch of rippling water where the great wave had boiled over miles of land and had sucked it back to the ocean's depths. And he realized that the beginning of his conference was not auspicious.

After the warmth of the girl's greeting, this other was like a plunge into the Arctic chill of his northern retreat.

"I HAVE listed every dollar's worth of property that I own," he was saying an hour later, "and I have turned it over to a trustee who will protect your rights. What more do you want?"

"We have heard of some experimental work," said Herr Schwartzmann smoothly. "A new ship; some radical changes in design. We would like that also."

"Try and get it," Harkness invited.

The other passed that challenge by. "There is another alternative,"

he said. "My principals in France are unknown to you; perhaps, also, it is not known that they intend to extend their lines to New York and that they will erect great terminals to do the work that you have done.

"Your father was the pioneer; there is great value in the name of Harkness—the 'good-will' as you say in America. We would like to adopt that name, and carry on where you have left off. If you were to assign to us the worthless remains of your plant, and all right and title to the name of Harkness Terminals, it might be—" He paused deliberately while Harkness stiffened in his chair. "It might be that we would require no further settlement. The balance of your fortune — and your ship—will be yours."

Harkness' gray eyes, for a moment, betrayed the smouldering rage that was his.

"Put it in plain words," he demanded. "You would bribe me to sell you something you cannot create for yourselves. The name of Harkness has stood for fair-dealing, for honor, for scrupulous observance of our clients' rights. My father established it on that basis and I have continued in the same way. And you?—well, it occurs to me that the Schwartzmann interests have had a different reputation. Now you would buy my father's name to use it as a cloak for your dirty work!"

He rose abruptly. "It is not for sale. Every dollar that I own will be used to settle my debt. There will be enough—"

HERR SCHWARTZMANN refused to be insulted. His voice was unruffled as he interrupted young Harkness' vehement statement.

"Perhaps you are right; perhaps not. Permit me to remind you that the value of your holdings may depreciate under certain influences that we are able to exert—also that you are in Austria, and that the laws of this country permit us to hold you imprisoned until the debt is paid. In the meantime we will find your ship and seize it, and whatever it has of value will be protected by patents in our name."

His unctuous voice became harsh. "Honor! Fair dealing!" He spat out the words in sudden hate. "You Americans who will not realize that business is business!"

Harkness was standing, drawn unconsciously to his full height. He looked down upon the other man. All anger had gone from his face; he seemed only appraising the individual before him.

"The trouble with you people," he said, "is that you are living in the past—way back about nineteen fourteen, when might made right—sometimes."

He continued to look squarely into the other's eyes, but his lips set firmly, and his voice was hard and decisive.

"But," he continued, "I am not here to educate you, nor to deal with you. Any further negotiations will be through my counsellors. And now I will trouble you to return me to the city. We are through with this."

HERR SCHWARTZMANN'S heavy face drew into lines of sardonic humor. "Not quite through," he said; "and you are not returning to the city." He drew a paper from his desk.

"I anticipated some such *verdammpt* foolishness from you. You see this? It is a contract; a release, a transfer of all your interests in Harkness, Incorporated. It needs only your signature, and that will be supplied. No one will question it when we are done: the very ink in the stylus you carry will be duplicated. For the last time, I repeat my offer; I am patient with you.

Sign this, and keep all else that you have. Refuse, and—"

"Yes?" Harkness inquired.

"And we will sign for you—a forgery that will never be detected. And as for you, your body will be found—a suicide! You will leave a letter: we will attend to all that. Herr Harkness will have found this misfortune unbearable. . . . We shall be very sad!" His heavy smile grew into derisive laughter.

"I am still patient, and kind," he added. "I give you twenty-four hours to think it over."

A touch of a button on his desk summoned the man who had brought Harkness there. "Herr Harkness is in your charge," were the instructions to the one who stood stiffly at attention. "He is not to leave this place. Is it understood?"

As he was ushered from the room, Walter Harkness also understood, and he knew that this was no idle threat. He had heard ugly rumors of Herr Schwartzmann and his methods. One man, he knew, had dared to oppose him—and that man had gone suddenly insane. A touch of a needle, it was whispered. . . .

There had been other rumors; Schwartzmann got what he wanted; his financial backing was enormous. And now he would bring his ruthless methods to America. But there he needed the Harkness standing, the reputation for probity—and Walter Harkness was grimly resolved that they should never buy it from him. But the problem must be faced, and the answer found, if answer there was, in twenty-four hours.

AN amazing state of affairs in a modern world! He stood meditating upon his situation in a great, high-ceilinged room. A bed stood in a corner, and other furniture marked the room as belonging to an earlier time. Even mechanical weather-control was wanting; one must open the windows, Harkness found, to get cooling air.

He stood at the open window and saw storm clouds blowing up swiftly. They blotted the stars from the night sky; they swept black and ominous overhead, and seemed to touch the giant trees that whipped their branches in the wind. But he was thinking not at all of the storm, and only of the fact that this room where he stood must be directly above the one where Schwartzmann was seated. Schwartzmann—who would put an end to his life as casually as he would bring down a squirrel from one of those trees!

And again he thought: "Twenty-four hours! . . . Why hours? Why not minutes? . . . Whatever must be done he must do now. And might made right: it was the only way to meet this unscrupulous foreign scoundrel.

A wind-tossed branch lashed at him. On the ground below he saw the man who had brought him, posting another as a guard. They glanced up at his window. There would be no escape there.

And yet the branch seemed beckoning. He caught it when again it whipped toward him, and, without any definite plan, he lashed it fast with a velvet cord from the window drapes.

But his thoughts came back to the room. He snatched suddenly at the covers of the bed. What were the sheets?—fabric as old-fashioned as the room, or were they cellulex? The touch of the soft fabric reassured him: it was as soft as though woven of spider's web, and strong as fibres of steel.

It took all of his strength to rip it into strips, but it was a matter of minutes, only, until he had a rope that would bear his weight. The storm had broken; the black clouds let loose a deluge of water that drove in at the window. If only the window below was still open!

HE found the middle of his rope, looped it over a post of the bed, and, with both strands in his grasp, let himself out and over the dripping sill.

Would the guard see him, or had he taken to shelter? Harkness did not pause to look. He left the branch tied fast. "A squirrel in a tree," he thought: the branch would mislead them. His feet found the window-sill one story below. He drew himself into the room and let loose of one strand of his rope as he entered.

Schwartzmann was gone. Harkness, with the bundle of wet fabric in his hands, glanced quickly about. A door stood open—it was a closet—and the rain-drenched man was hidden there an instant later. But he stepped most carefully across the floor and touched his wet shoes only to the rugs where their print was lost. And he held himself breathlessly silent as he heard the volley of gutteral curses that marked the return of Herr Schwartzmann some minutes later.

"Imbecile!" Schwartzmann shouted above the crash of the closing window. "*Dumkopff!* You have let him escape.

"Give me your pistol!" Harkness glimpsed the figure of his recent guard. "Get another for yourself—find him!—shoot him down! A little lead and detonite will end this foolishness!"

From his hiding place Harkness saw the bulky figure of Schwartzmann, who made as if to follow where the other man had gone. The pistol was in his hand. Walt Harkness knew all too well what that meant. The tiny grain of detonite in the end of each leaden ball was the same terrible explosive that drove their ships: it would tear him to pieces. And he had to get this man.

He was tensed for a spring as Schwartzmann paused. From the wall beyond him a red light was flashing; a crystal flamed forth with the intense glare of a thousand fires. It checked the curses on the other's thick lips; it froze Harkness to a rigid statue in the darkness of his little room.

AN emergency flash broadcast over the world! It meant that the News Service had been commandeered this flashing signal was calling to the peoples of the earth!

What catastrophe did this herald? Had it to do with the Dark Moon? Not since the uprising of the Molemen, those creatures who had spewed forth from the inner world, had the fiery crystal called! . . . It seemed to Harkness that Schwartzmann was hours in reaching the switch. . . A voice came shouting into the room:

"By order of the Stratosphere Control Board," it commanded, "all traffic is forbidden above the forty level. Liners take warning. Descend at once."

Over and over it repeated the command—an order whose authority could not be disregarded. In his inner vision Harkness saw the tumult in the skies, the swift dropping of huge liners and great carriers of fast freight, the scurrying of other craft to give clearance to these monsters whose terrific speed must be slowly checked. But why? What had happened? What could warrant such disruption of the traffic of the world? His tensed muscles were aching unheeded; his sense of feeling seemed lost, so intently was he waiting for some further word.

"Emergency news report," said another voice, and Harkness strained every faculty to hear. "Highline ships attacked by unknown foe. Three passenger carriers of the Northpolar Short Line reported crashed. Incomplete warnings from their commanders indicate they were attacked. Patrol ship has spotted

one crash. They have landed beside it and are reporting. . . .

"The report is in; it is almost beyond belief. They say the liner is empty that no human body, alive or dead, is in the ship. She was stripped of crew and passengers in the air.

"We await confirmation. Danger apparently centered over arctic regions, but traffic has been ordered from all upper levels—"

The voice that had been held rigidly to the usual calm clarity of an official announcer became suddenly high-pitched and vibrant. "Stand by!" it shouted. "An S. O. S. is coming in. We will put it through our amplifiers; give it to you direct!"

THE newscaster crackled and hissed: they were waiving all technical niceties at R. N. Headquarters, Harkness knew. The next voice came clearly, though a trifle faint.

"Air Patrol! Help! Position eighty-two—fourteen north, ninety-three — twenty east — Superliner Number 87-G, flying at R. A. plus seven. We are attacked!—Air Patrol!—Air Patrol!—Eighty-two—fourteen north, ninety-three—twenty—"

The voice that was repeating the position was lost in a pandemonium of cries. Then—

"Monsters!" the voice was shouting. "They have seized the ship! They are tearing at our ports—" A hissing crash ended in silence. . . .

"Tearing at our ports!" Harkness was filled with a blinding nausea as he sensed what had come with the crash. The opening ports—the outrush of air released to the thin atmosphere of those upper levels! Earth pressure within the cabins of the ship; then in an instant—none! Every man, every woman and child on the giant craft, had died instantly!

The announcer had resumed, but above the sound was a guttural voice that shouted hoarsely in accents of dismay. "Eighty-seven-G!" Schwartzmann was exclaiming, "—Mein Gott! It iss own ship, the Alaskan! Our crack flyer!"

HARKNESS heard him but an instant, for another thought was hammering at his brain. The position!—the ship's position!—it was almost above his experimental plant! And Chet was there, and the ship. What had Chet said? He would fly it in two days—and this was the second day! Chet had no radio-news; no instrument had been installed in the shop; they had depended upon the one in Harkness' own ship. And now—

Walt Harkness' clear understanding had brought a vision that was sickening, so plainly had he glimpsed the scene of terror in that distant cabin. And now he saw with equal clarity another picture. There was Chet, smiling, unafraid, proud of their joint accomplishment and of the gleaming metal shape that he was lifting carefully from its bed. He was floating it out to the open air; he was taking off, and up—up where some horror awaited.

"Monsters!" that thin voice had cried in a tone that was vibrant with terror. What could it be?—great ships out of space?—an invasion? Or beasts? . . . But Harkness' vision failed him there. He knew only that a fast ship was moored just outside. He had planned vaguely to seize it; he had needed it for his own escape but he needed it a thousand times more desperately now. Chet might have been delayed, and he must warn him. . . . The thoughts were flashing like hot sparks through his brain as he leaped.

HE bore the heavier body of Schwartzmann to the floor. He rained smashing blows upon him with a furious frenzy that would not be curbed. The weapon with its

deadly detonite bullet came toward him. In the same burst of fury he tore the weapon from the hand that held it; then sprang to his feet to stand wild-eyed and panting as he aimed the pistol at the cursing man and dragged him to his feet.

"The ship!" he said between heavy breaths, "—the ship! Take me to it! You will tell anyone we meet it is all right. One word of alarm, one wrong look, and I'll blow you to hell and make a break for it!"

The pistol under Harkness' silken jacket was pressed firmly into Schwartzmann's side; it brought them safely past excited guards and out into the storm; it held steady until the men had fought their way through blasts of rain to the side of the anchored ship. Not till then did Schwartzmann speak.

"Wait," he said. "Are you crazy, Harkness? You can never take off; the trees are close; a straight ascent is needed. And the wind—!"

He struggled in the other's grasp as Harkness swung open the cabin door, his fear of what seemed a certain death overmastering his fear of the weapon. He was shouting for help as Harkness threw him roughly aside and leaped into the ship.

Outside Harkness saw running figures as he threw on the motors. A pistol's flash came sharply through the storm and dark. A window in the chateau flashed into brilliance to frame the figure of a girl. Tall and slender, she leaned forward with outstretched arms. She seemed calling to him.

HARKNESS seized the controls, and knew as he did so that Schwartzmann was right: he could never lift the ship in straight ascent. Before her whirling fans could raise her they would be crashed among the trees.

But there were two helicopters—dual lift, one forward and one aft. And Walt Harkness, pilot of the second class, earned immediate disbarment or a much higher rating as he cooly fingered the controls. He cut the motor on the big fan at the stern, threw the forward one on full and set the blades for maximum lift, then released the hold-down grips that moored her.

The grips let go with a crashing of metal arms. The bow shot upward while a blast of wind tore at the stubby wings. The slim ship tried to stand erect. Another furious, beating wind lifted her bodily, as Harkness, clinging desperately within the narrow room, threw his full weight upon the lever that he held.

The full blast of a detonite motor, on even a small ship, is terrific, and the speedster of Herr Schwartzmann did not lack for power. Small wonder that the rules of the Board of Control prohibit the use of the stern blast under one thousand feet.

The roaring inferno from the stern must have torn the ground as if by a mammoth plow; the figures of men must have scattered like leaves in a gusty wind. The ship itself was racked and shuddering with the impact of the battering thrust, but it rose like a rocket, though canted on one wing, and the crashing branches of wind-torn trees marked its passage on a long, curving slant that bent upward into the dark. Within the control room Walter Harkness grinned happily as he drew his bruised body from the place where he had been thrown, and brought the ship to an even keel.

NICE work! But there was other work ahead, and the smile of satisfaction soon passed. He held the nose up, and the wireless warning went out before as the wild climb kept on.

Forty thousand was passed; then fifty and more; a hundred thousand; and at length he was through the repelling area, that zone of mys-

terious force, above which was a magnetic repulsion nearly neutralizing gravity. He could fly level now; every unit of force could be used for forward flight to hurl him onward faster and faster into the night.

Harkness was flying where his license was void; he was flying, too, where all aircraft was banned. But the rules of the Board of Control meant nothing to him this night. Nor did the voluble and sulphurous orders to halt that a patrol-ship flashed north. The patrol-ship was on station; she was lost far astern before she could gather speed for pursuit.

Walter Harkness had caught his position upon a small chart. It was a sphere, and he led a thin wire from the point that was Vienna to a dot that he marked on the sub-polar waste. He dropped a slender pointer upon the wire and engaged its grooved tip, and then the flying was out of his hands. The instrument before him, with its light bulbs and swift moving discs, would count their speed of passage; it would hold the ship steadily upon an unerring course and allow for drift of winds. The great-circle course was simple; the point he marked was drawing them as if it had been a magnet—drawing them as it drew the eyes of Walt Harkness, staring strainingly ahead as if to span the thousands of miles of dark.

CHAPTER III

The Space Terror

THE control room was glassed in on all sides. The thick triple lenses were free from clouding, and the glasses between them kept out the biting cold of the heights. The glass was strong, to hold the pressure of one atmosphere that was maintained within the ship. The lookouts gave free vision in all directions except directly below the hull, and a series of mirrors corrected this defect.

But Walt Harkness had eyes solely for the black void ahead. Only the brilliant stars shone now in the mantle of velvety night. No flashing lights denoted the passing of liners, for they were safe in the harbor of the lower levels. He moved the controls once to avoid the green glare of an ascending area, then he knew that there were no ships to fear, and let the automatic control put him back on his course.

Before him, under a hooded light, was a heavy lens. It showed in magnification a portion of the globe. There were countries and seas on a vari-colored map, and one pin-point of brilliance that marked his ever-changing position.

He watched the slow movement of the glowing point. The Central Federated States of Europe were behind him; the point was tracing a course over the vast reaches of the patchwork map that meant the many democracies of Russia. This cruiser of Schwartzmann's was doing five hundred miles an hour — and the watching man cursed under his breath at the slow progress of the tiny light.

But the light moved, and the slow hours passed, while Harkness tried to find consolation in surmises he told himself must be true.

Chet had been delayed, he insisted to himself; Chet could never have finished the work in two days; he had been bluffing good-naturedly when he threatened to fly the ship alone. . . .

THE Arctic Ocean was beneath. The tiny light had passed clear of the land on the moving chart.

He would be there soon. . . . Of course Chet had been fooling: he was always ready for a joke. . . . Great fellow, Chet! They had taken their training together, and Chet had gone on to win a master-pilot's

rating, the highest to be had. . . .

Another hour, and a rising hum from a buzzer beside him gave warning of approach to the destination he had fixed. The automatic control was warning him to decelerate. Harkness well knew what was expected of the pilot when that humming sounded; yet, with total disregard for the safety of his helicopters, he dived at full speed for the denser air beneath.

He felt the weight that came suddenly upon him as he drove through and beneath the repelling area, and he flattened out and checked his terrific speed when the gauges quivered at forty thousand.

Then down and still down in a long, slanting dive, till a landmark was found. He was off his course a bit, but it was a matter of minutes until he circled, checked his wild flight, and sank slowly beneath the lift of the dual fans to set the ship down as softly as a snowflake beside a building that was dark and forbiddingly silent—a lonely outpost in a lonely waste.

No answer came to his hail. The building was empty; the ship was gone. And Chet! Chet Bullard! . . . Harkness' head was heavy on his shoulders; his feet took him with hopeless, lagging steps to his waiting ship. He was tired — and the long strain of the flight had been in vain. He was suddenly certain of disaster. And Chet—Chet was up there as some hitherto untouched height, battling with—what?

HE broke into a stumbling run and drew himself within the little ship. He was helpless; the ship was unarmed, even if the weapons of his world were of use against this unknown terror; but he knew that he was going up. He would find Chet if he could get within reach of his ship; he would warn him. . . He tried to tell himself that he might yet be in time.

The little cruiser rose slowly under the lift of the fans; then he opened the throttle and swept out in a parabolic curve that ended in a vertical line. Straight up, the ship roared. It shot through a stratum of clouds. The sun that was under the horizon shone redly now; it grew to a fiery ball; the earth contracted; the markings that were coastlines and mountains drew in upon themselves.

He passed the repelling area and felt the lift of its mysterious force—the "R. A. Effect" that permitted the high-level flying of the world. His speed increased. It would diminish again as the R. A. Effect grew less. Record flights had been made to another ten thousand. He wondered what the ceiling would be for the ship beneath him. He would soon learn. . . .

He set his broadcast call for the number of Chet's ship. They had been given an experimental license, and "E—L—29-X" the instrument was flashing, "E—L—29-X." Above the heaviside layer that had throttled the radio of earlier years, he knew that his call from so small an instrument as this would be carried for hundreds of miles.

He reached the limit of his climb and was suddenly weightless, floating aimlessly within the little room; the ship was falling, and he was falling with it. His speed of descent built up to appalling figures until his helicopters found air to take their thrust.

And still no answering word from Chet. The cruiser was climbing again to the heights. The hands of Harkness, trembling slightly now, held her to a vertical climb, while his eyes crept back to the unlit plate where Chet's answering call should flash. But his own call would be a guide to Chet; the directional finders on the new ship would trace the position of his own craft if the new ship were afloat—if it were not ly-

ing crushed on the ice below, empty, like the liners, of any sign of life.

HIS despairing mind snapped sharply to attention. His startled jerk threw the ship widely from her course. A voice was speaking—Chet's voice! It was shouting in the little room!

"Go down, Walt," it told him. "For God's sake, go down! I'm right above you; I've been fighting them for an hour; but I'll make it!"

He heard the clash of levers thrown sharply over in that distant ship: his own hands were frozen to the controls. His ship roared on in its upward course, the futile "E—L—29-X" of his broadcast call still going out to a man who could not remove his hands to send an answer, but who had managed to switch on his sending set into which he could shout.

Harkness was staring into the black void whence the wireless voice had come—staring into the empty night. And then he saw them.

The thin air was crystal clear; his gaze penetrated for miles. And far up in the heights, where his own ship could never reach and where no clouds could be, were diaphanous wraiths. Like streamers of cloud in long serpentine forms, they writhed and shot through space with lightning speed. They grew luminous as they moved living streamers of moonlit clouds. . . . A whirling cluster was gathered into a falling mass. Out of it in a sharp right turn shot a projectile, tiny and glistening against the velvet black. The swarm closed in again. . . . There were other lashing shapes that came diving down. They were coming toward him.

And, in his ears, a voice was imploring: "Down! down! The R. A. tension may stop them! . . . Go down! I am coming—you can't help —I'll make it—they'll rip you to pieces—"

The wraith-like coils that had left the mass above had straightened to sharp spear-heads of speed. They were darting upon him, swelling to monstrous size in their descent. And Walt Harkness saw in an instant the folly of delay: he was not helping Chet, but only hindering. . . . His ship swung end for end under his clutching hands, and the thrust of his stern exhaust was added to the pull of Earth to throw him into a downward flight that tore even the thin air into screaming fragments.

ONE glance through the lookouts behind him showed lashing serpent forms, translucent as pale fire; impossible beasts from space. His reason rejected them while his eyes told him the terrible truth. Despite the speed of his dive, they were gaining on him, coming up fast; one snout that ended in a cupped depression was plain. A mouth gaped beneath it; above was a row of discs that were eyes—eyes that shone more brightly than the luminous body behind—eyes that froze the mind and muscles of the watching man in utter terror.

He forced himself to look ahead, away from the spectral shapes that pursued. They were close, yet he thrilled with the realization that he had helped Chet in some small degree: he had drawn off this group of attackers.

He felt the upthrust of the R. A. Effect; he felt, too, the pull of a body that had coiled about his ship. No intangible, vaporous thing, this. The glass of his control room was obscured by a clinging, glowing mass while still the little cruiser tore on.

Before his eyes the glowing windows went dark, and he felt the clutching thing stripped from the hull as the ship shot through the invisible area of repulsion. A scant hundred yards away a huge cylinder drove crashingly past. Its metal

shone and glittered in the sun; he knew it for his own ship—his and Chet's. And what was within it? What of Chet? The loudspeaker was silent.

He eased the thundering craft that bore him into a slow-forming curve that did not end for fourscore miles before the wild flight was checked. He swung it back, to guide the ship with shaking hands where a range of mountains rose in icy blackness, and where a gleaming cylinder rested upon a bank of snow whose white expanse showed a figure that came staggering to meet him.

SOME experiences and dangers that come to men must be talked over at once; thrills and excitement and narrow escapes must be told and compared. And then, at rare times, there are other happenings that strike too deeply for speech—terrors that rouse emotions beyond mere words.

It was so with Harkness and Chet. A gripping of hands; a perfunctory, "Good work, old man!"—and that was all. They housed the two ships, closing the great doors to keep out the arctic cold; and then Chet Bullard threw himself exhausted upon a cot, while he stared, still wordless, at the high roof overhead. But his hands that gripped and strained at whatever they touched told of the reaction to his wild flight.

Harkness was examining their ship, where shreds of filmy, fibrous material still clung, when Chet spoke.

"You knew they were there?" he asked, "—and you came up to warn me?"

"Sure," Harkness answered simply.

"Thanks," Chet told him with equal brevity.

Another silence. Then: "All right, tell me! What's the story?"

And Walt Harkness told him in brief sentences of the world-wide warning that had flashed, of the liners crashing to earth and their cabins empty of human life.

"They could do it," said Chet. "They could open the ports and ram those snaky heads inside to feed." He seemed to muse for a moment upon what might have come to him.

"My speed saved me," he told Harkness. "Man, how that ship can travel! I shook them off a hundred times—outmaneuvered them when I could—but they came right back for more.

"How do they propel themselves?" he demanded.

"No one knows," Harkness told him. "That luminosity in action means something—some conversion of energy, electrical, perhaps, to carry them on lines of force of which we know nothing as yet. That's a guess—but they do it. You and I can swear to that."

Chet was pondering deeply. "High-level lanes are closed," he said, "and we are blockaded like the rest of the world. It looks as if our space flights were off. And the Dark Moon trip! We could have made it, too."

IF there was a questioning note in those last remarks it was answered promptly.

"No!" said Harkness with explosive emphasis. "They won't stop me." He struck one clenched fist upon the gleaming hull beside him.

"This is all I've got. And I won't have this if that gang of Schwartzmann's gets its hands upon it. The best I could expect would be a long-drawn fight in the courts, and I can't afford it. I am going up. We've got something good here; we know it's good. And we'll prove it to the world by reaching the Dark Moon."

Another filmy, fibrous mass that had been torn from one of the monsters of the heights slid from above to make a splotch of colorless matter upon the floor.

Harkness stared at it. The firm line of his lips set more firmly still, but his eyes had another expression as he glanced at Chet. He would go alone if he must: no barricade of unearthly beasts could hold him from the great adventure. But Chet?—he must not lead Chet to his death.

"Of course," he said slowly, "you've had one run-in with the brutes." Again he paused. "We don't know where they come from, but my guess is from the Dark Moon. They may be too much for us. . . If you don't feel like tackling them again—"

The figure of Chet Bullard sprang upright from the cot. His harsh voice told of the strain he had endured and his reaction from it.

"What are you trying to tell me?" he demanded. "Are you trying to leave me out?" Then at the look in the other's eyes he grinned sheepishly at his own outburst.

And Walter Harkness threw one arm across Chet's shoulder as he said: "I hoped you would feel that way about it. Now let's make some plans."

PROVISIONS for one year! Even in concentrated form this made a prodigous supply. And arms—pistols and rifles, with cases of cartridges whose every bullet was tipped with the deadly detonite—all this was brought from the nearest accessible points. They landed, though, in various cities, keeping Schwartzmann's ship as inconspicuous as possible, and made their purchases at different supply houses to avoid too-pointed questioning. For Harkness found that he and Bullard were marked men.

The newscaster in the Schwartzmann cabin brought the information. It brought, too, continued reports of the menace in the upper air. It told of patrol-ships sent down to destruction with no trace of commander or crew; and a cruiser of the International Peace Enforcement Service came back with a story of horror and helplessness.

Their armament was useless. No shells could be timed to match the swift flight of the incredible monsters, and impact charges failed to explode on contact: the filmy, fibrous masses offered little resistance to the shells that pierced them. Yet a wrecked after compartment and smashed port-lights and doors gave evidence of the strength of the brutes when their great sinuous bodies, lined with rows of suction discs, secured a hold.

"Speed!" was Chet Bullard's answer to this, when the newscaster ceased. "Speed!—until we find something better. I got clear of them when they caught me unprepared, but we can rip right through them now that we know what we're up against."

HE had turned again to the packing of supplies, but Harkness was held by the sound of his own name.

Mr. Walter Harkness, late of New York, was very much in the day's news. When a young millionaire loses all his wealth beneath a tidal wave; when, further, he flies to Vienna and transfers all rights in the great firm of Harkness, Incorporated, to the Schwartzmann interests in part settlement of his obligations; and, still further, when he is driven to fury by his losses and attacks the great Herr Schwartzmann in a murderous frenzy, wounds him and escapes in Schwartzmann's own ship—that is an item that is worth broadcasting between announcements of greater importance.

It interested Harkness, beyond a doubt. He remembered the shot outside the cabin as he took off in his wild flight. Schwartzmann had been wounded, it seemed, and he was to be blamed for the assault. He smiled

grimly as he heard the warrant for his arrest broadcast. Every patrol-ship would be on the watch. And there would be a dozen witnesses to swear to the truth of Schwartzmann's lie.

The plan seemed plain to him. He saw himself in custody; taken to Vienna. And then, at the best, months of waiting in the psychopathic ward of a great institution where the influence of Herr Schwartzmann would not be slight. And, meanwhile, Schwartzmann would have his ship. Clever! But not clever enough. He would fool them, he and Chet.

And then he recalled the girl, Mademoisell Diane, a slim figure outlined in a lighted window of the old chateau. Was there hope there? he wondered. Had her clear, smiling eyes seen what occurred?

"Nonsense," he told himself. "She saw nothing in that storm. And, besides, she is one of their crowd—tarred with the same stick. Forget her.

But he knew, as he framed the unspoken words, that the advice was vain. He would never forget her. There was a picture in his mind that could not be blotted out—a picture of a tall, slender girl, trim and straight in her mannish attire, who came toward him from her little red speedster. She held out her hand impulsively, and her eyes were smiling as she said: "We will be generous, Monsieur Harkness—"

"Generous!" His smile was bitter as he turned to help Chet in their final work.

CHAPTER IV

The Rescue in Space

HOW often are the great things of life submerged beneath the trivial. The vast reaches of space that must be traversed; the unknown world that awaited them out there; its lands and seas and the life that was upon it: Walter Harkness was pondering all this deep within his mind. It must have been the same with Chet, yet few words of speculation were exchanged. Instead, the storage of supplies, a checking and rechecking of lists, additional careful testing of generators—such details absorbed them.

And the heavy, gray powder with its admixture of radium that transformed it to super-detonite—this must be carefully charged into the magazines of the generators. A thousand such responsibilities—and yet the moment finally came when all was done.

The midnight sun shone redly from a distant horizon. It cast strange lights across the icy waste. And it flashed back in crimson splendor from the gleaming hull that floated from the hangar and came to rest upon the snowy world.

The two men closed the great doors, and it was as if they were shutting themselves off from their last contact with the world. They stood for long moments, silent, in the utter silence of the frozen north.

Chet Bullard turned, and Harkness gripped his hand. He was suddenly aware of his thankfulness for the companionship of this tall, blond youngster. He tried to speak—but what words could express the tumult of emotions that arose within him? His throat was tight. . . .

It was Chet who broke the tense silence; his happy grin flashed like sunshine across his lean face.

"You're right," he answered his companion's unspoken thoughts; "it's a great little old world we're leaving. I wonder what the new one will be like."

And Harkness smiled back. "Let's go!" he said, and turned toward the waiting ship.

THE control-room was lined with the instruments they had installed. A nitron illuminator flashed

brilliantly upon shining levers—emergency controls that they hoped they would not have to use. Harkness placed his hand upon a small metal ball as Chet reported all ports closed.

The ball hung free in space, supported by the magnetic attraction of the curved bars that made a cage about it. An adaptation of the electrol device that had appeared on the most modern ships, Harkness knew how to handle it. Each movement of the ball within its cage, where magnetic fields crossed and recrossed, would bring instant response. To lift the ball would be to lift the ship; a forward pressure would throw their stern exhaust into roaring life that would hurl them forward; a circular motion would roll them over and over. It was as if he held the ship itself within his hand.

Chet touched a button, and a white light flashed to confirm his report that all was clear. Harkness gently raised the metal ball.

Beneath them a soft thunder echoed from the field of snow, and came back faintly from icy peaks. The snow and ice fell softly away as they rose.

A forward pressure upon the ball, and a louder roaring answered from the stern. A needle quivered and swung over on a dial as their speed increased. Beneath them was a blur of whirling white; ahead was an upthrust mountain range upon which they were driving. And Harkness thrilled with the sense of power that his fingers held as he gently raised the ball and nosed the ship upward in meteor-flight.

The floor beneath them swung with their change of pace. Without it, they would have been thrown against the wall at their backs. The clouds that had been above them lay dead ahead; the ship was pointing straight upward. It flashed silently into the banks of gray, through them, and out into clear air above. And always the quivering needle crept up to new marks of speed, while their altimeter marked off the passing levels.

THEY were through the repelling area when Harkness relinquished the controls to Chet. The metal ball hung unmoving; it would hold automatically to the direction and speed that had been established. The hand of the master-pilot found it quickly. They were in dangerous territory now—a vast void under a ceiling of black, star-specked space. No writhing, darting wraith-forms caught the rays of the distant sun. Their way seemed clear.

Harkness' eyes were straining ahead, searching for serpent forms, when the small cone beside him hummed a warning that they were not alone. Another ship in this zone of danger?—it seemed incredible. But more incredible was the scream that rang shrilly from the cone. "Help! Oh, help me!" a feminine voice implored.

Harkness sprang for the instrument where the voice was calling. "We aren't the only fools up here," he exclaimed; "and that's a woman's voice, too!" He pressed a button, and a needle swung instantly to point the direction whence the radio waves were coming.

"Hard a-port!" he ordered. "Ten degrees, and hold her level. No—two points down."

But Chet's steady hand had anticipated the order. He had seen the direction-finder, and he swung the metal ball with a single motion that swept them in a curve that seemed crushing them to the floor.

The ship levelled off; the ball was thrust forward, and the thunder from the stern was deafening despite their insulated walls. The shuddering structure beneath them was hurled forward till the needle of the speed-indicator jammed tight-

ly against its farthest pin. And ahead of them was no emptiness of space.

THE air was alive with darting forms. Harkness saw them plainly now—great trailing streamers of speed that shot downward from the heights. The sun caught them in their flight to make iridescent rainbow hues that would have been beautiful but for the hideous heads, the sucker-discs that lined the bodies and the one great disc that cupped on the end of each thrusting snout.

And beneath those that fell from on high was a cluster of the same sinister, writhing shapes which clung to a speeding ship that rolled and swung vainly in an effort to shake them off.

The coiling, slashing serpent-forms had fastened to the doomed ship. Their thrashing bodies streamed out behind it. They made a cluster of flashing color whose center point was a tiny airship, a speedster, a gay little craft. And her sides shone red as blood—red as they had shone on the grassy lawn of an old chateau near far-off Vienna.

"It's Diane!" Harkness was shouting. "Good Lord, Chet, it's Diane!"

This girl he had told himself he would forget. She was there in that ship, her hands were wrenching at the controls in a fight that was hopeless. He saw her so plainly—a pitiful, helpless figure, fighting vainly against this nightmare attack.

Only an instant of blurred wonderment at her presence up there—then a frenzy possessed him. He must save her! He leaped to the side of the crouching pilot, but his outstretched hands that clutched at the control stopped motionless in air.

CHET BULLARD, master-pilot of the first rank, upon whose chest was the triple star that gave him authority to command all the air-levels of earth, was tense and crouching. His eyes were sighting along an instrument of his own devising as if he were aiming some super-gun of a great air cruiser.

But he was riding the projectile itself and guiding it as he rode. He threw the ship like a giant shell in a screaming, sweeping arc upon the red craft that drove across their bow.

They were crashing upon it: the red speedster swelled instantly before their eyes. Harkness winced involuntarily from the crash that never came.

Chet must have missed it by inches, Harkness knew; but he knew, too, that the impact he felt was no shattering of metal upon metal. The heavy windows of the control room went black with the masses of fibrous flesh that crashed upon them; then cleared in an instant as the ship swept through.

Behind them a red ship was falling—falling free! And vaporous masses, ripped to ribbons, were falling, too, while other wraith-like forms closed upon them in cannibalistic feasting.

Their terrific speed swept them on into space. When the pilot could check it, and turn, they found that the red ship was gone.

"After it!" Harkness was shouting. "She went down out of control, but they didn't get her. They've only sprung the door-ports a crack, releasing the internal pressure." He told himself this was true: he would not admit for an instant the possible truth of the vision that flashed through his mind—a ripping of doors—a thrusting snout that writhed in where a girl stood fighting.

"Get it!" he ordered; "get it! I'll stand by for rescue."

HE sprang for the switch that controlled the great rescue magnets. Not often were they used,

but every ship must have them: it was so ordered by the Board of Control. And every ship had an inset of iron in its non-magnetic hull.

His hand was upon the switch in an agony of waiting. Outside were other beastly shapes, like no horror of earth, that came slantingly upon them, but even their speed was unequal to the chase of this new craft that left them far astern. Harkness saw the last ones vanish as Chet drove down through the repelling area. And he had eyes only for the first sight of the tiny ship that had fallen so helplessly.

Ahead and below them the sun marked a brilliant red dot. It was falling with terrific speed, and yet, so swift was their own pace, it took form too quickly: they would overshoot the mark. . . . Harkness felt the ship shudder in slackening speed as the blast from the bow roared out.

They were turning; aiming down. The red shape passed from view where Harkness stood. His hand was tight upon the heavy switch.

Chet's voice came sharp and clear: "Rescue switch—ready?" He appeared as cool and steady as if he were commanding on an experimental test instead of making his first rescue in the air. And Harkness answered: "Ready."

A pause. To the waiting man it was an eternity of suspense. Then, "Contact!" Chet shouted, and Harkness' tense muscles threw the current into crashing life.

HE felt the smash and jar as the two ships came together. He knew that the great magnets in their lower hull had gripped the plates on the top of the other ship. He was certain that the light fans of the smaller craft must have been crushed; but they had the little red speedster in an unshakable grip; and they would land it gently. And then—then he would know!

The dreadful visions in his mind would not down. . . . Chet's voice broke in upon him.

"I can't maintain altitude," Chet was saying. "Our vertical blasts strike upon the other ship; they are almost neutralized." He pointed to a needle that was moving with slow certainty and deadly persistence across a graduated dial. It was their low-level altimeter, marking their fall. Harkness stared at it in stunned understanding.

"We can't hold on," the pilot was saying; "we'll crash sure as fate. But I'm darned if we'll ever let go!"

Harkness made no reply. He had dashed for an after-compartment to their storage place of tools, and returned with a blow-torch in his hand. He lit it and checked its blue flame to a needle of fire.

"Listen, Chet," he said, and the note of command in his voice told who was in charge, at the final analysis, in this emergency. "I will be down below. You call out when we are down to twenty thousand: I can stand the thin air there. I will open the emergency slot in the lower hull."

"You're going down?" Chet asked. He glanced at the torch and nodded his understanding. "Going to cut your way through and—"

"I'll get her if she's there to get," Harkness told him grimly. "At five hundred, if I'm not back, pull the switch."

THE pilot's reply came with equal emphasis. "Make it snappy," he said: "this collision instrument has picked up the signals of five patrol-ships a hundred miles to the south."

They dropped swiftly to the twenty level, and Harkness heard the deafening roar of their lower exhausts as he opened the slot in their ship's hull. He dropped to the red surface held close beneath, while the cold gripped him and the whirling blasts of air tore at him. But the

torch did its work, and he lowered himself into the cabin of the little craft that had been the plaything of Mademoiselle Diane.

The cabin was a splintered wreck, where a horrible head had smashed in search of food. One entrance port was torn open, and the head itself still hung where it had lodged. The mouth gaped flabbily open; above it was the suction cup that formed a snout; and above that, a row of staring, sightless eyes. Chet had slammed into the mass of serpents just in time, Harkness realized. Just in time, or just too late. . . .

The door to the control room was sprung and jammed. He pried it open to see the unconscious body that lay huddled upon the floor. But he knew, with a wave of thankfulness that was suffocating, that the brute had not reached her: only the slow release of the air-pressure had rendered her unconscious. He was beside her in an instant.

HE was dimly aware of the thunder of exhausts and the shrill scream of helicopters as he reached the upper surface of the red ship and forced his unconscious burden into the emergency slot above his head.

"They're here!" Chet was shouting excitedly. "We're ordered to halt. Looks as if our flight was postponed." He tried to smile, but the experiment was a failure.

"I am dodging around to keep that big one from grabbing us with its magnet. Schwartzmann is aboard one of the patrols; they think the girl is in her ship. They won't fire on us as long as we hang on. But we'll crash if we do that, and they'll nail us if we let go."

Harkness had placed the girl's body upon the floor. His answer was a quick leap to the pilot's side. "See to her," he ordered; "I'll take the ship. Stop us now? Like hell they will! What's all our power for?"

One glance gave him the situation: the big gray fighter above, slipping down to seize them with her powerful magnets; four other patrol cruisers that slowly circled, their helicopters holding them even with the two ships that clung together in swift descent.

Chet was right: no burst of speed could save them from the guns of the patrols if they dropped the red speedster and made a break for it. They thought Diane was still in her ship, and a patrol would have the little craft safe before she had dropped a thousand feet. Their own stern exhaust would be torn by a detonite shell, and the big cruiser would seize them in the same way. No—they must hang onto the girl's ship and outmaneuver the others. He pressed the metal ball forward to the limit of its space, and the stern exhaust crashed into action with all the suddenness of his own resolve.

The ship beneath him threw itself straight ahead, flashed under the patrol-ship that blocked them, and was away. The weight below, and its resistance to the air, dragged them down, but Harkness brought the ball up, and the ship answered with a slow lift of the bow that aimed them straight out into space.

A vertical climb!—and the voice from the instrument beside him was shouting orders to halt. On each side were patrol-ships that roared upward with him.

"Cut those motors!" the voice commanded. "Release that ship! Halt, or we will fire!"

HARKNESS threw his ship into a wild spiral for reply, and the thin crack of guns came to him from outside. Down! A headlong dive! Then out and up again!

He was through the repelling area in a twisting, rocking flight. Not hit as yet: they had to aim carefully to avoid damaging the red craft. . . .

He was straining his eyes for a glimpse of serpent-forms, and he laughed softly under his breath at thought of his strange allies. Laughed!—until he saw them coming.

He slammed down the switch on his own broadcast sender. "Back!" he shouted; "back, all of you! Look up! Look above you! The monsters are coming!—the air-beasts!—they are attacking!"

He threw his own ship into a dive; saw the others do likewise; then leaped for the switch on the rescue magnets and pulled it open.

He felt the red ship fall clear. He swung his own ship free and aimed it out and up on a long line of speed. Beside him a voice from a distant, fleeing patrol was shouting: "Come back, you fool! Down! Down, through the R. A.!"

One backward glance showed him that his pursuers were safe. The serpents had turned to pursue him, and other writhing luminosities were falling from above. He swung head on, his motors wide open, his speed building up and up, to crash softly through the advance guard of the giant creatures out of space.

Nothing could stop him! He was trembling with the knowledge, and with the sheer joy of the adventure. Nothing could check them; neither cruisers nor monsters; nothing of earth or of space. They were free; they were on their way out — out where a new world awaited—where the Dark Moon raced on her unlighted path!

FOR the moment he had forgotten their passenger. The thrill of combat and the ecstasy of winning freedom for their great adventure had filled him to forgetfulness of all else.

"We're off!" he shouted. "Off for the Dark Moon!" Then he remembered, and turned where Chet was supporting the head of a slim girl whose eyes opened to look about, to glance from Chet to Harkness and back to Chet who was holding her.

"You saved me," she breathed, "from them!" She raised one hand weakly to cover her eyes at memory of those writhing shapes, then let it fall as other memories crowded in.

"The patrol-ships!" she exclaimed breathlessly. "You must. . . ." Her voice trailed off into silence.

She was able to stand, and with Chet's help she came slowly to her feet as Harkness reached her. His voice was harsh and scornful; all elation had left him. He forced himself to hold his unsmiling gaze steadily upon the soft brown eyes that turned to his.

"Yes," he said; "we must 'surrender'—that was the word you wanted. We must surrender! . . . Well, Mam'selle Diane, we're not in a surrendering mood to-day. We've got away; made our escape!"

He laughed loudly and contemptuously, though he winced at the look of hurt that opened the brown eyes wide.

"You brought the patrol," he went on; "you learned where we were—"

"Herr Schwartzmann did," she interrupted in a quiet voice. "He located you; your signals were picked up. . . . They left two hours before I did," she added enigmatically. "I had to fly high, above the R. A. for greater speed."

Walt Harkness was bewildered. What did this mean? He tried to preserve the pose of hard indifference that was becoming increasingly difficult.

"More generosity?" he inquired. "You had to see the end of the hunt —be in at the death?"

"In at the death!" she echoed, and laughed in a tone that trembled and broke. "I nearly was, truly. But, no, my dear Monsieur Harkness: incredible as it seems, in view of your unfriendly reception, I came to warn you! . . . But, enough of that. Tell

me—you see how interested I am in your plans?—what did you say of the Dark Moon?"

WALTER HARKNESS tried to rearrange his jumbled thoughts. She had come to warn them. Was this true? Or was this girl, who laughed so lightly, playing with him?

"Yes," he said dully, "we were bound for the Dark Moon. The Patrol couldn't stop us, nor the beasts that have paralyzed the flying service of the earth; but you have done it. We will turn back at once, and return you safely—"

He was again at the controls, one hand extended for the metal ball, when her slim hand closed upon his wrist.

"I know Herr Schwartzmann's plans," she said quietly. "He would ruin you; seize your ship; steal for himself the glory of your invention. Would you go back and deliver yourself into his hands—because of me?"

The brown eyes, Harkness found, were upon his with an expression he could not fathom.

"Yes," he said simply.

And still the eyes looked into his. There was laughter in them, and something else whose meaning was concealed.

"I ask you not to do this," she was saying. "You will succeed: I read it in your face. Let me go with you; let me share in the adventure. I am begging this of you. It is your turn to be generous."

Harkness' hand upon the metal ball held it motionless within its enclosing cage. From astern there came to him the muffled roar of a blast that drove them on and out into space—black, velvety space, thick-studded with sharp points of light. . . . He stared into that wondrous night, then back into the eyes that looked steadily, unfathomably, into his. . . . And his hand was unresisting as the strong, slender fingers about his wrist drew it back. . . .

They were off for the Dark Moon: their journey, truly, was begun. And this girl, whom he had told himself to forget, was going with them. There was much that he did not understand, but he knew that he was glad with a gladness that transcended all previous thrills of the perilous plan.

CHAPTER V

The "Dark Moon"

THEY were seated in the cabin of the man-made meteor that the brain of Harkness had conceived —two men and a girl. And they stared at one another unsmilingly, with eyes which reflected their comprehension of the risks that they ran and the dangers which lay ahead in the dark void. Yet the brown eyes of Mam'selle Diane, no less than the others, were afire with the thrill of adventure—the same response to the same lure that has carried men to each new exploration—or to their death.

Behind them, a rear lookout port framed a picture of awful majesty. The earth was a great disc, faintly luminous in a curtain of dead black. From beyond it, a hidden sun made glorious flame of the disc's entire rim. And, streaming toward it, a straight, blasting line from their stern exhaust, was an arrow of blue.

It had taken form slowly, that arrow of blue fire, and Harkness answered an unspoken question from the girl.

"Hydrogen and oxygen," he explained. "It is an explosive mixture at this height, but too thin to take fire. It will pass. Beyond this is pure hydrogen. And then, nothing."

He turned to switch on their radio receiver, and he set it for the newscasting waves that went forth from the most powerful station of Earth, the Press Tower of New

York. A voice came to them faintly. For a time it vied with the muffled roar of their thundering exhaust; then it lost volume, faded, and was finally gone.

Their last contact with Earth was severed. There remained only blackness, and a great abyss through which they were plunging.

HARKNESS busied himself with calculations. He would have spoken, but the silence that followed the vanished voice of Earth had robbed his own voice of control.

A telescope sight was fixed rigid with the axis of their ship. He looked through it, moved their controls, and brought the cross-hairs of his instrument to bear upon a star.

"That's about right," he said quietly. "I got all the information that the observatories had, on the orbit of the Dark Moon. It is circling the Earth from north to south. It coincided for a short time with our own moon when it first hit: that's what kicked up the big wave and jarred us up. But it swung off and seems to have settled down in its own orbit now.

"Two hundred thousand miles away is what they make it, though I think that is more or less of a guess. I wish we could measure our speed." He looked at the earth-induction speed-indicator. Useless now, it registered zero.

"Well," he added, "we are shooting for the North Star. We will pass close to the Dark Moon's orbit; it should be about over the Pole on this date. And there is one good safe bet, anyhow: there is nothing between here and there to stop us."

He was being weakly facetious, but his efforts met with an enthusiastic response. The tension of the moment, it was plain, had not affected Harkness alone. But it was many hours before the error of his statement was made manifest to all.

An island, faintly luminous, lay ahead. It grew to enormous size as they dashed upon it. Harkness sprang for the controls, but, before he could reach them, they had struck the vast field of pale green light, flashed through it, and left it diminishing in size behind them. Then, other lights, not brilliant, but like phosphorescent bodies, that came and went and flashed by with blinding speed.

ANOTHER luminous area rushed at them from ahead. At first it was a speck, then an island, and then a continent in size, and through it moved other brighter lights. This time a slight suggestion of an impact was felt. Here was matter of a form they could not guess. It was Chet who pointed to the glass of their control room. The heavy lights of the lookouts were smeared with sticky fluid that drew together in trickling streams.

"Nothing between us and the Dark Moon?" he asked of Harkness. "And space is an empty void? We Earth-creatures are a conceited lot."

"Meaning?" the girl questioned.

"Meaning that because we live on Earth—walk on solid ground, swim in the water and fly in the air—we deny the existence of life in space. There's the answer written in the blood of some life that was snuffed out as we hit it."

Harkness shook his head doubtfully. "Matter of some sort," he admitted, "and the serpents came from somewhere; but, as for the rest, the idea that the ocean of space is filled with life as our Earth-oceans are—creatures living and moving through unknown fields of force. . . ." He did not finish the denial, but looked with wondering gaze at the myriad points that flashed softly into glowing masses and darted aside before their onward rush.

It was hours later that he checked their flight. Slowly at first he cut off the exhaust from their stern and

opened the bow valve. Slowly, for their wild speed must slacken as it had been built up, by slow degrees. The self-adjusting floor swung forward and up. Their deceleration was like the pull of gravity, and now straight ahead seemed down.

More hours, and they were at rest, floating in an ethereal ocean, an ocean teeming with strange life. Each face was pressed close to a lookout port. No one of the three could speak; each was too absorbed in the story his eyes were reading—this story of a strange, new existence where no life should have been.

Animalculae. They came in swarms; cloud masses of them floated past; and swirls of phosphorescent fire marked the presence of larger creatures that moved among them. Large and small, each living creature was invisible until it moved; then came the greenish light, like phosphorescence and yet unlike.

STILL Harkness could not force himself to believe the irrefutable evidence. What of astronomy? he asked himself. Why was this matter not visible through telescopes? Why did it not make its presence known through interference? Through refraction of light? . . . And then he realized the incredible distance within the scope of his vision; he knew that this swarming life was actually more widely spaced; and the light of a brilliant star shone toward him through the center of a living mass to prove that here was matter that offered no resistance to the passage of light.

A void of nothingness was before his eyes. He saw its black emptiness change to pale green fire that swirled and fled before a large shape. The newcomer swept down like light itself. Softly green like the others, its rounded body was outlined in a huge circle of orange light. Like a cyclopean pod, it was open at one end, and that open end closed and opened and closed-again as the creature gulped in uncounted millions of the tiny, luminous dots—every one, as Harkness now knew, a living thing.

Strange light whirled into life and vanished, each evidencing a battle where life took life in this ocean of the invisible living. A gasp from the girl brought Harkness quickly about.

"Another one!" she said breathlessly, and pointed where the blackness was looped with writhing fire. It came swiftly near to show the outline of the dread serpent form; the suction cups showed plainly.

Danger was in this thing, Harkness knew, but it passed them by before he could move. The further lookout showed two gleaming monsters locked together in deadly embrace. So swift was their whirling motion that details of form were lost: only a confusion of lashing tentacles that whipped and tore, and one glimpse of a savage maw that sheared the tentacles off. Then the serpent was upon them.

HARKNESS had seen one time a sight that was indelibly impressed upon his memory. A steeloid cable had broken under a terrific strain; the end of it had lashed out with a speed the eye could not follow, to wind itself around the superstructure of a submarine—and the men who were gathered there.

He thought of that now, saw again the bleeding mass that had been an instant before a group of humans, as the serpent seized its prey. The two combatants were encircled in a living coil of light. Then, as motion ceased, the ethereal sea went dark except for pulsing suction cups that drew and strained at the bodies they held.

Harkness was groping for the controls—he saw too plainly their own

helplessness when they were at rest—but the voice of Dianne checked him.

"That bright star went out," she said; and Harkness let his gaze follow where she pointed.

The stars that were distant suns shone in brilliant points of light; no atmosphere here to dim them or cause a flickering. A bright point vanished as she looked—another!—and he knew abruptly that he was seeing a circle of blackness that moved slowly between them and the stars.

"The Moon!" he shouted. "The Dark Moon!" And now his hand found the controls that threw their ship into thunderous life. It was approaching! He swung the metal ball to throw them ahead and to one side, and the roar from the stern told of the fast-growing speed that was pressing them to the floor. . . .

AN hour of wild flight, and the circle was close upon them. Too faintly lighted to register in the telescopes of Earth, there was still enough of luminosity to marks it as a round disc of violet that grew dimly bluish-green around the edge.

It ceased to grow. Their ship, Harkness knew, was speeding beside it some hundreds of miles away. But they were within its gravitational pull, and were falling toward it. And he aimed his ship bow-on to make the forward blast a check upon their falling speed.

The circle broadened; become a sphere; and then they were plunging through clouds more tenuous than any vapors of Earth—thick layers of gas that reflected no rays from the distant sun.

Beside them a sinuous form showed where a serpent of space was trying to match their speed. Harkness saw it twisting convulsively in the stratum of gas; it was falling, lifeless, beside them as they sped on and away. Here was something the beasts could not combat. He made a mental note of the fact, but his thoughts flashed again to what lay ahead.

Every eye was held close to the lookouts that faced forward. The three were breathless, wordless; the hand of Harkness that held the tiny ball was all that moved.

Ahead of them was their goal, the Dark Moon! And they were prepared for Stygian darkness and a land of perpetual night. The almost invisible gas-clouds thinned; there was a glow ahead that grew brilliant as they watched; and then, with a blinding suddenness that made them shield their eyes, there flashed before them a world of light.

Each line of shore was marked distinctly there; the blue and violet of rippling seas were blended with unreal hues; there were mountains upthrust and, on the horizon, a range of volcanic peaks that poured forth flashing eruptions half-blanketed by invisible gas.

"The *Dark* Moon!" gasped Harkness. He was spellbound with utter awe at the spectacle he beheld. This brilliant world a-gleam to its farthest horizon with golden, glorious sunlight, softly spread and diffused! This, *this!* was the Dark Moon!

HE turned to share with the others the delirium of ecstatic wonder too overpowering to be borne alone—turned, to find his happiness shot through with a pang of regret. He saw Chet and Diane. They had been standing together at a wide forward lookout; and now she was holding one hand of the pilot to her breast in an embrace of passionate joy.

Unconscious, that gesture of delight at this climax of their perilous trip?—Harkness told himself that this was so. But he swung back to the helm of the ship. He glanced at instruments that again were regis-

tering; he saw the air-pressure indicator that told of oxygen and an atmosphere where men might live. He gauged his distance carefully, and prepared to land.

The moment of depression could not last, for there was too much here to fill brain and eyes. What would they find? Was there life? His question was answered by an awkward body that flapped from beneath them on clumsy wings. He glimpsed a sinuous neck, a head that was all mouth and flabby pouch, and the mouth opened ludicrously in what was doubtless a cry of alarm.

Then land, that took form an detail; a mountain whose curled top was like a frozen wave of stone. In a valley below it trees were growing. They swayed in a wind, and their branches reached upward and flowed and waved like seaweed on the ocean's floor. Green—vivid, glowing green!—and reds and purples that might be flowers and fruit.

AN open space in a little valley spread invitingly before him, and he laid the ship down there in a jungle of lush grasses—set it down as gently as if he were landing from a jaunt of a thousand miles instead of two hundred times that distance straight away from Earth.

The others were looking at him with glowing, excited eyes. In the cabin was silence. Harkness felt that he must speak, must say something worthy of the moment—something to express in slight degree the upwelling emotion that filled them all, three adventurers about to set foot upon a virgin world. . . .

The pause was long-drawn, until he ended it in a voice that had all the solemn importance of a head-steward's announcement on a liner of the high-level service. But the corners of his lips were twitching to a little smile.

"This," he announced, "is as far as we go. This is the end of our run."

The tension that had held them emotionally taut was ended. With outstretched hands Diane ran toward him, and her broken laugh betrayed the hysteria she was holding back.

"Congratulations!" she cried, and clung tightly to his hands. "Congratulations, M'sieu Walter—"

Her voice choked and she could not go on; but the eyes that were raised to his were luminous through the tears that filled them.

From the cabin beyond came a clash of levers, where Chet was preparing to open a port. And Harkness followed with unseeing eyes where the pilot waited that their commander might be the first to step forth upon an unknown globe—upon the surface of what men had called "The Dark Moon."

CHAPTER VI

Trapped

WALTER HARKNESS, piloting his ship to a slow, safe landing on a new world, had watched his instruments with care. He had seen the outer pressure build up to that of the air of Earth; the spectro-analyzer had shown nitrogen preponderating, with sufficient oxygen to support life. And, below him, a monstrous thing that flopped hurriedly away on leather wings had told him that life was there.

But what would that life be? This was the question uppermost in the minds of all three as they stepped forth—the first of Earth's people to ask the question and to find the answer.

Chet had gone to their stores. He strapped a belt about his waist, a belt banded with a row of detonite cartridges, and a pistol hung at his hip. He handed another to Harkness. But the pistol he offered Diane was refused.

"My many accomplishments," she

laughed, "do not include that. I never could shoot—and besides I will not need to with both of you here." Her hand was resting confidently upon Chet's arms as they followed where Harkness led.

The heavy grass, standing waist-high in the little valley where their ship was at rest, stirred to ripples of vivid green as a light breeze touched it. Above, the sun shone warm upon this world of tropical growth. Harkness, listening in the utter silence for sounds that might mean danger, let his eyes follow up the rugged wall of rock that hemmed them in on two sides. It gleamed with metallic hues in the midday glare. He looked on to the sun above.

"A dark moon!" he said wonderingly. "Dark!—and yet it is blazing bright. Why can't we see it from Earth? Why is it dark? . . I've an idea that the gas we came through is the answer. There is metal, we know, that conducts an electric current in only one direction: why not a gas that will do the same with light?"

THE pilot was listening, but Diane seemed uninterested in scientific speculations. "The trees!" she breathed in rapture; "the marvelous, beautiful trees!"

She was gazing toward distant towering growths where the valley widened. Like no trees of Earth, these monsters towered high in air, their black trunks branching to end in tendrils that raised high above them. And the tendrils were a waving, ever-moving sea of color, where rainbow iridescence was stabbed through with the flash of crimson buds. A down-draft of air brought a heady, intoxicating odor.

And still there was silence. To Walter Harkness, standing motionless and alert amidst the waving grass, it seemed a hush of waiting. A prickle of apprehension passed over his skin. He glanced about, his pistol ready in his hand, looked back for a moment at the ship, then smiled inwardly in self-derision of his fear as he strode forward.

"Let's have a look at things," he said with a heartiness not entirely sincere. "We'll discover nothing standing here."

But the silence weighed upon them all as they pressed on. No exclamations of amazement from them now, no speculations on what might lie ahead. Only wide-eyed alertness and a constant listening, listening—until the silence was broken by a scream.

A man it seemed at first, when Harkness saw the figure leap outward from the cliff. A second one followed. They landed on all fours upon a rock that jutted outward toward the trees.

The impact would have killed a human, but these creatures stood upright to face the concealment from which they had sprung. One was covered with matted, brown hair. Its arms were long, and its fists pounded upon a barrel-like chest, while it growled hoarsely. The other ape-thing, naked and hairless, did the same. They were both uttering those sounds, that at times seemed almost like grunted words, when the end came.

A swishing of leather wings!—a swooping, darting rush of a huge body!—and one of the ape-men, as Harkness had mentally termed them, was struggling in the clutch of talons that gripped him fast.

The giant bat-shape that had seized him reached for the other, too. A talon ripped at the naked face, but the ape-man dodged and vanished among the rocks.

WITH pounding wings, the bat swept off in lumbering flight, but with its burden it seemed heavy, and failed to rise. The trees were close, and their waving ten-

tacles drew back, then shot out to splash about the intruder. The talons released their hold, and the huge leather wings flapped frantically; but too late. Both captor and captive were wrapped in an embrace of iridescent arms and held struggling in mid-air, while the unmoving watchers below stood in horror before this drama of life and death.

Then a red bud opened. It was enormous, and its flowery beauty made more revolting the spectacle of the living food that was thrust within its maw.

The bud closed. Its petal were like lips. . . . And Diane, in white-faced horror, was clinging to the protecting arm of Chet Bullard beside her. Chet, too, had paled beneath his tan. But Walter Harkness, though white of face, was staring not at the crimson bud, shut tightly about its living food, but upward toward the broken, rocky face of the cliff.

The flying thing, the unnamed horror of the air, had come silently from on high. None of them had seen it until it struck, and he was sure that the ape-men had been taken unaware. Then what had frightened them? What other horror had driven them in screaming terror to that fearful spring out into the open where they must have known danger awaited?

Did a rock move? he wondered. Was the splotch of color—that mottling of crimson and copper and gray—a part of the metallic mass? He rubbed his smarting eyes—and when he looked again the color was gone. But he had a conviction that eyes, sinsister and deadly, had been staring into his, that a living mass had withdrawn softly into a shadowed cave, and that the menace that had threatened the ape-men was directed now toward them.

Was this the reason for the silence? Was this valley, so peaceful in its sunlit stillness, a place of death, from which all living things kept clear? Had the ape-men been drawn there through curiosity at seeing their ship float down?

And the quiet beauty of the valley—it might be as horrible a mockery as the blazing splendor of those things ahead—those beautiful and horrible eaters of flesh! His voice was unsteady as he turned toward the others.

"Let's call this off," he said: "there is something up there. We'll go back to the ship and get up in the air again. We'll find a healthier place to land."

LIKE Harkness, Chet Bullard held his pistol ready in his hand. "Something else?" he inquired. "You saw something? And Harkness nodded grimly.

They retraced their steps. A half-mile, perhaps. It had seemed long as they ventured forth, and was no shorter now. And the gleaming, silvery shape of the ship was entirely lovely to their eyes as they approached.

Harkness circled the blunt bow with its open exhaust high above his head. On the far side was the port where they had emerged; its open door would be welcome in its promise of safe seclusion. His sigh of relief was echoed by the two who followed, for the horror and apprehension had been felt by all. But the breath choked abruptly in his throat.

Before them was the door, its thick metal wide-swung as they had left it. But the doorway itself, where warm darkness should have invited, was entirely sealed by a web of translucent stuff.

Harkness approached to look more closely. The substance was glistening and smooth—yellowish—almost transparent. It was made up of a tangle of woven cords which clung tightly to the metal sides. Harkness reached out in sudden

fury to grip it and tear it loose. He grasped the slippery stuff, stumbled—and hung suspended by a tenacious hold that gripped his hand where it had touched, and would not let go.

His arm swung against it, and his shoulder. They were instantly immovable. And he knew in a single terrifying instant his utter helplessness. He saw Chet Bullard's hands come up, and he found his voice in time to scream a harsh warning to him.

"Tear me loose!" he commanded, "but don't touch the damned stuff!" It took the combined strength of the pilot and the girl to free him, and Harkness had to set his teeth to restrain an exclamation of pain as his hand came slowly from the web that clung and clung and would not let go.

FROM his place upon the ground he saw Chet raise a broken piece of rock. It was like metal, and heavy, as the pilot's efforts proved, though it was surprisingly small in size. He saw Chet raise it above his head and crash it upon the thick web that filled the door. And, as his own aching arm had been held, the rock was seized in the tough strands, which gave back only slightly under the blow.

Harkness scrambled to his feet. The fury that had possessed him made the hurt of his arm unfelt. What devil's-work was this that barred them from the safety of the ship? The memory of that other menace, half-seen among the rocks, was strong upon him.

"Stand back!" he shouted to Chet and the girl, and he raised his pistol to send a charge of detonite into the unyielding mass. Here was power to tear the clinging stuff to atoms.

He felt Chet's body plunge upon him an instant before he fired, and his pistol was knocked up and flew outward from his hand. He heard the pilot's voice.

"Walt!" Chet was saying. "For God's sake come out of it! Are you crazy? You might have wrecked that door-port so we never could have fixed it; or the bullet could have gone on through to explode inside the ship. Either way we would never get back: no leaky hull would ever let us make the trip home!"

Chet was right: Harkness knew it in a moment. He knew the folly of what he would have done, yet knew, too, that desperate measures were needed and needed quickly. The eyes of a devil had held his own from the darkness of the rocks, and the same rock wall came close to where they stood. He was in command; it was up to him—

THE moment of indecision ended as a mass of viscous fluid splashed heavily against the ship. Harkness whirled about to face the rocks. He was calm now and controlled, but under his quiet courage was a fear that gripped him. A fear of what he should find! But the reality was so far beyond any imagined terror as to leave him cold.

Above them and thirty feet away on a rocky ledge was a thing of horror. Basilisk eyes in a hairy head; gray, stringy hairs; and the fearful head ended in narrow, outthrust jaws, where more of the gray hairs hung like moss from lips that writhed and curled and sucked at the air with a whistling shrillness. Those jaws could crush a man to pulp. And the head seemed huge until the body behind it came into view.

The suddenness with which the great body rose showed the strength of the beast. A prodigous sack, like black leather, with markings of crimson and copper!—and the straggling, ropy hairs on it were greenish-gray like the lustre of the rocks at its back.

It stood upright on great hairy legs. The eyes shot forward on protruding antennae. The sack-like body flexed to bring the rear part under and forward. It was aiming at them.

Harkness seized the slim figure of the girl who stood, mute with horror, beside him. He threw her roughly to the ground, for the meaning of the viscous splash was plain.

"Down!" he shouted to Chet. "Down on the ground!" And he felt the swish of another liquid mass above his head as he obeyed his own command.

He felt for his pistol, then remembered it was gone—lost when Chet sprang upon him. But Chet had his.

"Shoot!" he ordered. "Shoot the damned thing, Chet! Kill the spider!"

Spider! He had named it unconsciously. But the name was inadequate, for here was a thing of horror beyond even a spider of prodigious size. This peaceful valley! —and here was its ruler, frightful, incredibly loathsome!

HE waited for the sound of a shot. A cursing, instead, was the only reply: Chet was not firing! Harkness whirled to see the pilot pinned by one arm to the web.

The fluid had caught him; he had not dropped quickly enough. And his right hand that had been raised, and the pistol it held, were clamped fast to the awful stuff.

There was no word of appeal, no call for help, yet Chet Bullard must have known what this meant. But neither did Harkness wait for that word. One spring, and he had the pilot by the waist, and he felt the weight of the girl's slim body added to his as her arms went about him to help. Chet's face went chalk-white as the hand tore loose. The pistol remained buried in the clinging stuff.

From the corner of his eye, Harkness saw the monster crouched to spring. He was half dragging the other two as he stooped and ran for the bow of the ship. The monstrous body thudded against the metal hull behind them.

The leap was prodigious. He saw the sack-like body fall inert, the great, hairy legs shaking. For the moment, the attacker was helpless; but the respite was brief, as the glaring eyes plainly told.

Below the ledge where the beast had been was an opening in the rocks—a bit of black shadow that was darker than the lustrous metal of the cliff. There was a chance—

"I can make it," Chet was saying, as Harkness dragged him on; "help Diane!" But the girl had sprung before them to gain a foothold and extend a helping hand. And they were back in the darkness of a rocky cave before the sunlit entrance was blocked by a hairy head and a horrible, slavering mouth on a body too huge to enter.

CHAPTER VII

In the Labyrinth

SPENT and shaken, the three passed onward into the cave. Harkness searched his pockets for his neolite flash; found it—a tiny pencil with a tip of glass—and the darkness of the inner cave was flooded with light.

A box of food tablets was in a pocket of Chet's jacket, and there was water that trickled in a tiny stream out of the rocks. It could have been worse, Diane pointed out with forced gaiety. But Harkness, who had gone back for a final look at the entrance to the cave, found it difficult to smile.

He had found the entrance an opening no longer: it was sealed with a giant web of ropy strands—a network, welded together to a glutinous mesh. They were sealed in as effectively as if the opening

were closed by a thick door of steel.

They gathered fungus that grew in thready clumps on the walls, and this served as a mattress to soften the rocky floor that must be their bed. And Harkness sat silent in the darkness long after the others were asleep—sat alone on guard, to think and to reach, at last, a conclusion.

A cleavage in the rocks made a narrow crack to the outside world, and through it the starlight filtered dimly. The thread of light grew brilliantly golden—moonlight, a hundredfold more bright than moonlight on Earth. And he realized that the source of light was their own globe, Earth, shining far through space!

It lighted the cave with a mellow glow. It shone upon the closed eyes of the sleeping girl, and touched lightly upon the rounded softness of a lovely face beneath a tangle of brown curls. Harkness stared long and soberly at the picture she made, and he thought of many things.

No parasite upon society was this girl. He had known such; but her ready wit, her keen grasp of affairs, had been evident in their talks on the journey they had made. They had stamped her as one who was able to share in the work and responsibilities of a world where men and women worked together. Yet there was nothing of the hardness that so many women showed. And now she was altogether feminine, and entirely lovely.

NOT far away, Chet Bullard was sleeping heavily His hand, injured painfully when they tore it from the clinging mass, had been bandaged by Diane. It troubled him now, and he flung one arm outward. His hand touched that of the girl, and Harkness saw the instant quiet that came upon him at the touch. And Diane—her lips were smiling in her sleep.

They had been much together, those two; theirs had been a ready, laughing comradeship. It had troubled Harkness, but now he put all thought of self aside.

"This trip," he thought, "can end only in disaster—if it has not already done so. What a fool I was to bring these two!" And: "If I want to risk my own life," he told himself bitterly, "that's my own affair. But for Chet, and Diane, with their lives ahead of them—" His determination was quickly reached.

He would go back. Somehow, some way, he would get them to the ship. They would return to Earth. And then.... His plans were vague. But he knew he could interest capital; he knew that this new world, that was one great mine of raw metals, would not go long unworked. The metallic colorations in rock walls and mountains had fairly shouted of rich ores and untold wealth.

Yes, they would go back, but he would return. He would put from his mind all thought of this girl; he would forget forever those nebulous plans that had filled him with hope for a happiness beyond all hoping. And he would come back here prepared for conquest.

He put aside all speculation as to what other horrible forms of life the little world might hold: he would be prepared to deal with them. But he still wondered if there were people. He had hoped to find some human life.

And this hope, too, left him; his sense of this globe as an undeveloped world was strong upon him. The monsters; the tropical, terrible vegetation; the very air itself—all breathed of a world that was young. There had not been time for the long periods of evolution through which humanity came.

He tried to tell himself of the wealth that would be his; tried to feel the excitement that should follow upon such plans. But he could

only feel a sense of loss, of something precious that was gone. Diane—named for the moon: she seemed more precious now to the lonely man than all else on moon or Earth. She could never be his; she never had been. It was Chet upon whom the gods and Diane had smiled. And Chet deserved it.

Only in this last conviction did he find some measure of consolation during the long night.

"WE will rip the big web out with detonite," Harkness told the others when morning came. "But I want to get the spider, too."

A touch upon the web with a stick brought an instant response. Again they saw in all its repulsiveness the thing that seemed a creature of some horrible dream. The eyes glared, while hairy feelers seized the web and shook it in furious rage. Harkness, fearing another discharge of the nauseating, viscous liquid, withdrew with the others far back in the cave.

"Wait," he told them. "I have a plan."

The creature vanished, and Harkness went cautiously forward to the web. He took a detonite cartridge from his belt and placed it on the floor close to the ropy strands. Another, and another, until he had a close-packed circle of the deadly things. Then he placed a heavy, metallic piece of rock beside them and proceeded, with infinite care, to build a tower.

One irregular block upon another: it was like a child at play with his toys. Only now the play was filled with deadly menace. The stones swayed, then held in precarious, leaning uncertainty; the topmost was directly above the cartridges on the floor.

"Back!" he ordered the others, "and lie flat on the floor. I must guess at the amount of explosive for the job."

Chet and Diane were safe as Harkness weighed a fragment of metal in his hand. One throw—and he must not hit the tower he had built. . . . The rock struck into the network of cords; he saw it clinging where it struck, and saw the web shaking with the blow.

Over his shoulder, as he ran, he glimpsed the onrush of the beast. Again the eyes were glaring, again the feelers were shaking furiously at the web. They touched the leaning stones!

He had reached the place where Chet and Diane lay and saw the beginning of the tower's fall; and in the split second of its falling he threw himsef across the body of the prostrate girl to shield her from flying fragments of stone. A blast of air tore at him; his ears were numbed with the thunder of the blast—a thunder that ended with a crashing of stone on stone. . . .

SLOWLY he recovered his breath; then raised himself to his feet to look toward the entrance. It would be open now, the way cleared. But, instead of sunlight, he saw utter dark. Where the mouth of the cave had been was blackness—and nothing else!

He fumbled for his flash, and stood in despairing silence before what the light disclosed.

The rock was black and shining about the mouth of the cavern. It had split like glass. In shattered fragments it filled the forward part of the cave. The whole roof must have fallen, and a crashing slide above had covered all.

Chet was beside him; Harkness dared not look toward the girl coming expectantly forward.

"We'll use more of the same," Chet suggested; "we will blast our way out."

"And bring down more rock with each charge," Harkness told him tonelessly. "This means we are—"

Diane had overheard. Harkness' pause had come too late.

"Yes?" she encouraged. "This means we are entombed?—buried here? Is that it?"

Her voice was quiet; her eyes, in the light of the little flash, were steady in their look upon the man who was leader of the expedition. Diane Vernier might shudder with horror before some obscene beast—she would tremble with delight, too, at sight of some sudden beauty—but she was not one to give way to hysteria when a situation must be faced. No despair could be long-lived under the spell of those eyes, brave and encouraging.

"No," said Walter Harkness: "we will find some way to escape. This is blocked. We will follow the cave back and see where it leads. There must be other outlets. We're not quitting now." He smiled with a cheerful confidence that gave no hint of being assumed, and he led the way with a firm step.

DIANE followed as usual, close to Chet. But her eyes were upon their leader; they would have repaid him for a backward look.

To a minerologist this tunnel that nature had pierced through the rock would have been an endless delight, but to a man seeking escape from his living tomb it brought no such ecstasy. The steady, appraising glance of Harkness' was everywhere—darting ahead, examining the walls, seeking some indication, some familiar geological structure, that might be of help.

He stopped once to kick contemptuously at a vein of quartz. Three feet in thickness—and it crumbled to fragments under his foot to release a network of gold.

"Rotten with it," he said.

And the only comment came from Chet: "A fat lot of good it does us!" he replied.

The cavern branched and branched again; it opened to a great room higher than their light could reach; it narrowed to leave apertures through which they crawled like moles; it became a labyrinth of passages from which there seemed no escape. Each turn, each new opening, large or small—it was always the same: Harkness praying inaudibly for a glimpse of light that would mean day; and, instead—darkness!—and their own pencil of light so feeble against the gloom ahead. . . .

CHAPTER VIII

The Half-Men

"THE Valley of the Fires," Harkness was to call it later, and shorten it again to "Fire Valley." The misty smokes of a thousand fires rose skyward from the lava beds of its upper end.

Where the lava flow had stopped and the lower valley began, came vegetation. Sparse at first, then springing to luxuriant growth, it contrasted strongly with the barren wall beside it and the equally barren waste of high ground where the fires were.

Mountains hemmed it in; their distant peaks showed black, with red and green striations of mineralized deposits. The valleys about them were dense with foliage, a green so startling and vivid as almost to offend the eye.

Trees were in the lower end of the valley. They were of tremendous growth, and the dew of early morning dripped from them like rain. Trunks smooth and ghostly white, except where the bark had split into countless fractures and the scarlet color of the sap-wood showed through. Outflung branches forked to drop down dangling stalks that rooted again in the ground; these made a forest of slender white supports for the leafy roof—a forest of spectral shapes in a shadow-

world. Only here and there were arrows of sunlight that pierced the dense foliage above to strike through and down to the black earth floor and the carpet of rainbow hues.

And that carpet of radiant colors was trampled into paths that wound on to lose themselves in the half-light of that ghostly world.

FROM one of the paths came sounds of tramping feet. Cries and snarling grunts resounded through the silence to send lizards scurrying to the safety of the trees. Animal cries or hoarse voices of men—it would have been difficult to tell which. And a sight of the creatures themselves would have left an observer still in doubt.

A score of them, and they walked upright. Some bodies were naked, a coppery-black in color; on others the skin was covered by a sparse growth of hair. Noses that were mere nostril-slits; low foreheads, retreating flatly to a tangle of matted hair; protruding jaws which showed the white flash of canine teeth as the ape-like faces twisted and the creatures tugged at ropes of vines thrown over their shoulders.

The Neanderthal Man had not learned to use the wheel; and these man-animals, too, used only the sheer strength of their corded muscles as they hauled at the body of a beast.

It dragged along the path behind them, rolling at times to show the white of its belly instead of the flexible armor-plating that protected its back. Fresh blood flowed from a wound in the white under-skin; this, and the dripping flints that tipped their spears, told now death had come. One curving horn that projected from a wrinkled snout caught at times in the undergrowth, and then the ones who dragged it would throw themselves upon the head with snarls of fury and twist the big horn free.

The rocky cliff was honeycombed with caves. A cry, half-human in its tone, brought an avalanche of figures scurrying forth. Children, whose distended abdomens told of the alternate feasting and hunger that was theirs, were cuffed aside by women who shouted shrilly at sight of the prize. Older men came, too, and in a screaming mob they threw themselves upon the carcass of the beast that had been dragged into the open.

FLINT knives came into play, then sharpened stakes that were thrust through the bleeding meat. Young and old seized what they could, leaped across the little stream that trickled downward through the valley, and raced for the nearest fires.

The fumaroles made places for roasting, and these half-men had learned the taste of cooked meats. Their jaws were slavering as they waited. The scents were tantalizing.

A hunter was reaching to snatch a shred of half-cooked meat when a woman of the tribe gave a scream that was shrill with fear. She pointed her gnarled hand upward on the face of the cliff.

An opening was there, a black cave-mouth in the black cliff. Above their own caves, was this higher opening, yet they must have explored it often—must have followed it as far as they dared, where it led to the mountain's innermost depths. Yet from this familiar place there stepped forth an apparition. Another followed, and another — three strange creatures like none the savage eyes of this world had ever seen.

Clothing torn to rags—faces black and smeared with blood—hands that reached groping and trembling toward the light, until the half-blinded eyes of one saw the trickling brook.

Then, "Water!" he croaked in a voice hardly more human than the

grunts of horror from below, and he took the hand of another to help in the steep descent — while the tribe beneath them forgot their anticipated feast, forgot all but their primordial fear of the unknown, and, with startled cries, broke and ran for the safety of the forest. . . .

CHAPTER IX

The Throwers of Thunder

IT is doubtful if Walter Harkness heard or consciously saw that fleeing tribe. He saw only the glorious sunlight and its sparkling reflection upon the stream; and in his nostrils was the scent of roasting meat to rouse him to a frenzy.

For seven Earth days he and Chet had kept account of the hours. How long after that they had followed their stumbling course he could not have told. Time ceased to be measured in hours and days; rather was it reckoned in painful progress a foot at a time up rocky burrows, helping, both of them, to ease the path for the girl who struggled so bravely with them, until aching muscles refused to bear them further. Then periods of drugged sleep with utter fatigue for an opiate—and on again in hopeless, aimless wandering.

And now, the sun! And he was plunging his head into icy water to drink until he strangled for breath! He knew that Chet and Diane were beside him. A weak laugh came to his lips as he sat erect: the girl had drunk as deeply as the rest—and now she was washing her hands and face.

The idea seemed tremendously amusing—or was it that the simple rite indicated more than he could bear to know? It meant that they were safe; they had escaped; and again a trifle like cleanliness was important in a woman's eyes. He rocked with meaningless laughter—until again a puff of wind brought distinctly the odor of cooking food.

A hundred feet away, up higher in the valley, were the first of the fires. Harkness came to his feet and ran—ran staggeringly, it is true, but he ran—and he tore at some hanging shreds of smoking meat regardless of the burn. But the fierce gnawing at his stomach did not force him to wolf the food. He carried it back, a double handful of half-cooked meat, to the others. And he doled it out sparingly to them and to himself.

The cold water had restored his sanity. "Easy," he advised them; "too much at first and we're done for."

HE was chewing on the last shred when a thought struck him; he had been too stunned before to reason. For the first time he jerked up his head in startled alarm. He looked carefully about — at the meat on its pointed stakes, at the distant fires, at the open glade below them and the dense jungle beyond where nothing stirred.

"Cooked meat!" he exclaimed in a whisper. "Who did it? This means people!"

The memory that had registered only in some corner of a mind deeper than the conscious, came to the surface. "I remember," he said. "There were things that ran—men—apes—what were they?"

"Oh, Lord!" Chet groaned. "And all I ask is to be left alone!" But he wearily raised himself upright and verified the other's words.

"They ran toward that opening among those trees. And I'll bet they live in these caves up here behind us. I got a whiff of them as we came past: they smelled like a zoo."

They had come out on top of the lava-flow, close to its end. The molten rock had hardened to leave a drop of some forty feet to the open glade below. Beyond that the jungle began, but behind them was the

lava bed, frozen in countless corrugations. Harkness rose and helped Diane to her feet: they must force their aching muscles to take up their task again.

He peered up the valley where a thousand fires smoked. "That stream," he said, "comes in from a little valley that branches off up there. We had better follow it—and we had better get going before that gang recovers from its surprise."

They were passing the first of the fires where the meat was smoking when Chet called a halt. "Wait a bit," he begged; "let's take a sirloin steak along—" He was haggling at a chunk of meat with a broken flint when a spear whistled in and crashed upon the rocks.

HARKNESS saw the thrower. Beyond the lava's edge the jungle could be seen, and from among the spectral trees had darted a wild figure whose hairy arm had snapped the spear into the air.

There were more who followed. They were sliding down the slender trunks that supported the branches and leafy roof high above the ground. To Harkness the open doorway to the jungle seemed swarming with monkey-men. The movement of the three fugitives had been taken as a retreat, and the courage of the cave-dwellers had returned.

Harkness glanced quickly about to size up their situation. To go on was certain death; if these creatures came up to meet them on the lava-beds, the end was sure. The escarpment gave the three some slight advantage of a higher position.

One vain wish for the pistol now resting in the deep grass beside a vanished ship; then he sprang for the weapon that had been thrown—it was better than nothing—and advanced cautiously to the lava's edge.

No concealment there; no broken rocks, other than pieces of flint; a poor fortress, this, that they must defend! And the weapons of their civilization were denied them.

Another spear hummed its shrill song, coming dangerously close. He saw women-figures that came from the jungle with supplies of weapons. Short spears, about six feet long, like the one he held. But they had others, too—long lances of slender wood with tips of flint. Thrusting spears! He had a sickening vision of those jagged stone heads ripping into their bodies while these beasts stood off in safety. It was thus that they killed their prey. And Diane—he could not even spare her—could not give her the kind oblivion of a mercy-shot!

The other two were lying beside him now at the edge of the sloping cliff. The bank of shining gray was not steep; the enemy would climb it with ease. Hopeless! They had won through for this! . . . Harkness groaned silently in an agony of spirit at thought of the girl.

"Oh, for one detonite shell to land among them!" he said between clenched teeth—then was breathless with a thought that exploded within his mind.

HIS fingers were clumsy with haste as he fumbled at the head of the spear. The sharp-edged stone was bound to its shaft with sinew, wound round and round. The enemy were out in the open; he spared an instant's look to see them advancing. A clattering of falling spears sounded beyond, but the weapons were overcast, thanks to the protection of the rocky edge.

"A shell! Harkness spoke with sharp intensity. "Give me a cartridge from your belt, quick!"

Chet handed him one. Harkness took one look, then pulled a cartridge from his own belt.

"That explains it," he was muttering as he worked, "—the big explosion when I smashed the rocks. You've got ammunition for your pis-

tol, but you put rifle cartridges in my belt—and service ammunition at that. No wonder they raised the devil with those rocks!"

His fingers were working swiftly now to bind the slender cartridge to the spear. A chipped out hollow in the flint made a seat. He gave silent thanks for Chet Bullard's mistake. Chet had slipped; he had filled Harkness' belt with ammunition that would have been useless for the pistol—but it was just what he needed here.

So intent was he on his task that he hardly heard the yelling chorus from below. It swelled to a din; but his work was finished, and he looked up.

One figure in advance of the rest had been urging them on, and they came in a wild rush now. Walt Harkness scrambled to his feet. Tall and sinewy, his broad shoulders, scantily covered by the rags of blouse that remained, were turned sideways as he raised the spear. The yelling from below swelled louder and more shrill.

This strange one from another tribe—he was unarmed except for one of their own spears. The curious covering on his body was flapping in the breeze. Nothing here, surely, to hold a hunting-tribe in check.

The spear rose slowly in the air. What child of the tribe could not have thrown it better! They came on faster now; the leader had almost reached the place where the spear was dropping down. He must have laughed, if laughter had yet been born in such a breast, at the futile weapon dropping point first among the rocks.

One little shell, a scant three inches long, no thicker than the stylus on milady's desk! But here was service ammunition, as Harkness had said; and in the end of the lead a fulminate cap was buried—and a grain of dense, gray dust!

THERE was no flame—only a concussion that cracked upon one's ears, and flying rock fragments that filled the air with demoniac shrieks. And then that sound was lost in the shriller cries of terror and pain as the ape-men broke for the trees.

Harkness saw some of them who rose and fell again to rise no more, and one who dragged himself slowly from the blast that had struck him down. But his eyes came back to another spear in his hands, and his fingers were tearing at the sinew wrapping.

The spear bent in his hands; the wood was flexible and springy. It was Diane who offered the next suggestion. She, too, was working at another spear—what wonder if her breath came fast!—but her eyes were alight, and her mind was at work.

"Make a bow!" she exclaimed. "A bow and arrow, Walter! We are fighting primitive men, so we can't scorn primitive weapons." She stopped with a little exclamation of pain; the sharp tip of the flint had cut her hand.

Chet's spearhead was unloosed. He tried the spring of the shaft. "Bully girl, Diane!" he said, and fell to gouging out a notch with the sharp flint near the end of the shaft.

The sinew made a string. Three slender sticks lying about whose ends had been sharpened for use on the meat: they would do for arrows. Each arrow must be notched and headed with an explosive shell, and there were many of them.

Chet sprang to his feet at last. Forgotten was the fatigue that had numbed him. A wild figure, his clothes in rags, his short, curling hair no longer blond, his face a mottling of brown and black, where only here and there the white skin dared show through—he executed an intricate dance-step with a bed of lava for a floor, while he shouted:

"Bring on your fighters! Bring 'em on! Who's going to stop us now?"

THEY were free to go, but Harkness paused at a renewed screaming from the jungle. Again the hairy ones poured forth into the open glade. He had half raised his bow, with arrow ready, before he saw that this was no attack.

The screams merged discordantly with other sounds—a crashing of uprooted trees—a chorus of harsh coughing — snorting — unrecognizable noises. And the people were cowering in terror.

They half-ran toward the safety of their caves, but the throwers of thunder, the demons on the lava bed, were between them and their homes. They turned to face the jungle, and the wild sounds and crash of splintered wood that drew near.

Harkness saw the first head that appeared. He stared in open-mouthed amazement at the armored monster. Thick plates of shell covered its mammoth body and lapped part way over the head to end at beady, wicked, red eyes on either side of a single curved horn.

An instant the animal waited, to glare at the cowering human forms it had tracked to their lair; others crashed through beside it; and in that instant Harkness recognized the huddled group below as brothers. Far down they were, in the long, weary path that was evolution, and hardly come as yet to a consciousness of self — but there were those who leaped before the others, their long spears couched and ready; they were defending the weaker ones at their backs; they were men!

And Harkness was shouting as he raised his crude bow. "Shoot!" he ordered. "Kill the brutes!" His own arrow was speeding true.

The rush of mammoth beasts was on as he fired, but it was checked as quickly as it began. An inferno of explosions rose about the rushing bodies; crashing detonations struck two of them down, their heads torn and crushed. Between the helpless, primordial men and the charging beasts was a geyser of spouting earth and rocks, through which showed ugly heads and tremendous bodies that wheeled and crashed madly back into the jungle growth.

Harkness suddenly realized that only he and Chet had fired. Diane's bow was on the ground. He saw the girl beside it, sitting upright; but her body was trembling and weaving, and she was plainly maintaining her upright posture only by the greatest effort.

HE was beside her in an instant. "What is it?" he demanded. "Are you hurt? What is it?"

She raised her hand that he might see; her lips seemed almost too numb for speech.

"Only a scratch," she whispered, but Harkness saw her eyes glazing. He dropped to his knees and caught her swaying body in his arms.

"A scratch," she repeated in a fading voice, "from the spear. . . . Poison . . . I think."

A head appeared over the lava crest. Harkness saw it vaguely. He knew that Chet had the newcomer covered; his bow was drawn. It meant nothing to him, for Diane was wounded—dying! Dying, now, in his arms. . . .

The ape-man came on; he was grovelling upon the ground. He was hairless, like the one they had seen escape the attack of the giant bat, and his cheek was slashed with a healing cut that might have been made by a ripping talon. He abased himself before the awful might of these creatures who had saved them. And he made motions with his arms to picture how they had sailed down from the skies; had landed; and he had seen them. He was plainly pe-

titioning for pardon and the favor of these gods—when he dropped his animal head to stare at the girl and the cut hand that Harkness held in his.

The blue discoloration of the wound must have been plain in its significance. The hairless one sprang abruptly to his feet and darted toward a cave. He was back in a moment, and, though he approached with wriggling humility, he reached the girl and he ventured to touch the discolored hand with a sticky paste. He had a gourd that he held to the girl's lips.

Harkness would have struck it away; he was beside himself with grief. But Chet interposed.

"Give it to her," he said in a sharp, strained voice that told of his own dismay. "I think the beggar knows what he's about. He is trying to help."

The lips were lax; only a little of the liquid found its way down her throat. But Harkness, after minutes of agony, saw the first flutter of lids that betokened returning life. . . .

CHAPTER X

"But Awfully Dumb. . . ."

HARKNESS would never forget the helpless body in his arms, nor the tender look that came slowly to the opened eyes that gazed so steadily into his. And yet it was Chet that she seemed to want for the thousand little services during the week that followed. And Harkness tried to still the hurt in his heart, and he told himself that it was her happiness he wanted more than his; that if she found greater pleasure in having Chet near, then his love was unworthy if it placed itself as a bar to that other happiness.

He talked by signs with the hairless one whom he called Towahg. It was the sound the other made as he struck upon his chest. And he learned that Towahg could guide him to the ship.

The tribe had left them alone. Only Towahg seemed inclined to friendliness; and Harkness frequently saw the one who was their leader in ugly, silent contemplation of them when Towahg brought food and water to their cave.

Diane was recovering, but her progress was slow. She was able at once to walk and go slowly about, but the least exertion tired her. It had been a close call, Harkness knew, and he realized that some time must pass before she could take up the hardships of the trail. And in the meantime much might happen.

He felt that he must reach the ship at the first possible moment and return for the others; Towahg would show him the way. He explained the plan to Chet and Diane only to meet with emphatic dissent.

"You would go alone?" the girl exclaimed. "To meet heaven knows what dangers? No, no, Walter; you must not! Wait; I am stronger; I can go soon, I know."

Chet, too, was for delay—Diane *was* better, and she would improve steadily. They could carry her, at first. But Harkness looked at the jungle he must penetrate and knew that he was right.

HE gave Towahg a bow and arrows like his own and those that Chet kept for defense, but the arrows were of sharpened wood without detonite tips. He grinned toward Chet as he showed the savage how to handle the marvellous thing.

"We've advanced these people a thousand years in the science of arms," he said. "They should make Diane their first Minister of Munitions, or worship her as their own lovely goddess of the chase."

A weapon that would throw farther than the strongest man could

cast a spear—here was magic indeed! And Towahg knelt and grovelled on the ground at his benefactor's feet.

Harkness made light of the dangers he must face, but he knew in his own mind he might fail. And the time of leaving found him curiously depressed. He had gripped Chet's hand, then turned to Diane for what might be a last good-by. The quick enfoldment of her soft body in his arms was as unpremeditated as the kiss he placed upon her lips. . . . He swung away abruptly, and fell in behind his guide without a word. The way led first across the place of smoke and fire.

Danger ahead on this strange trail; he knew it well. But he took it as it came; and his guide, and his crude weapon, and his steady eye and sureness of foot on rocky crags all saw him through. And he mentally mapped the hills and valleys and the outcrops of metals that he would explore some later time. Only seven of the short six-hour days of this little earth had passed when he drew near the ship.

He was ready for an attack. There was the broken rubble that marked the entrance of the cave. Beneath it, he knew, were mangled, horrible remains. This one beast alone, it seemed, had been the ruler of the valley, for no other appeared.

The mass that had blocked the doorway was crystalline now, and broke to brittle fragments at a blow. He entered the familiar cabin of the ship. There was nothing disturbed; the sealed inner door had barred entrance to any inquiring beasts.

Far down the valley he saw a naked, running figure. Towahg had escorted this sky-god to the great bird that had brought him, but the courage of even so advanced a tribesman as he must have limits. He was still running along the path they had come when Harkness closed and sealed the door.

THERE was an instrument among their stores for taking samples of gas. Harkness attached it to the ship before he left, and he took a few precious minutes for a flight into the heights. That gas up there was fatal to the monsters of space: he must secure a sample and learn its composition.

A closing of the switch on wires that led to the instrument outside, and he knew that the container had emptied its contents of water, drawn in the gas and sealed itself.

Then the swift descent.

He flew low as he circled back. They had traveled far on their journey below ground; it was even a longer route where he and Towahg had circled about. But it was the only route he knew; he could take no chances on a short-cut and a possible long-drawn search for the little valley.

He followed the trail. The quick dusk was near; but in an hour's slow flying, while his eyes searched the hills and hollows, the valley was in sight.

He came down slowly in a black sky, with only the soft, muffled roar of the lower exhausts. It was growing dark, and he leaned from an open door to see more clearly his position. All was different from the air, and he needed time and careful scrutiny to get the bearings of the place.

The soft thunder from below was in his ears when a sound pierced through. His own name! And it was Diane's voice calling him in a terrified tone.

"Walter!" she cried. "Help! Help! Oh, Walter, come quickly!"

THE scene below was lighted by fitful fires. He was above the upper valley, a hundred yards from their cave: his mind was oriented in an instant, and he knew each foot of ground.

And here, where neither Diane

nor Chet should be, was Diane. He saw her running in the bright glare of his landing light that he now switched on; saw a black shape hurl itself upon her; she was struggling. He threw himself back at the controls to send the ship like a thunderbolt upon the earth.

A pistol was in his hand as he leaped from the still-rocking ship and threw himself upon the thing that ran and tried to carry a struggling burden in its arms.

He could not fire; but he brought the pistol down upon a heavy skull. The hairy figure seemed never to feel the blow. It dropped the body of Diane and turned, and its slavering, shining fangs were set in a horrible face that Harkness recognized.

It was the leader of the tribe, and he had dared to attack. But where was Chet? What of his arrows and their detonite tips? These thoughts were crowding through his mind in the instant that ape-like fingers gripped at his throat—the instant while he was bringing the pistol forward and up.

A light charge of detonite in pistol ammunition—but no living body could withstand the shock. Harkness leaped over the fallen foe to reach the girl. She was half risen to a sitting posture as he came.

"Dieu!" she was whispering; *"Ah, le bon Dieu!"* Then she cried out: "Walter! Oh, Walter, they have killed Chet! Down there!" Her hand was pointing. She grasped at Harkness' hand to draw herself to her feet and race with him toward the cave.

"JUST at dark," she explained gaspingly as they ran. "It was their chief, and there were others with him. They leaped upon Chet—before he could reach for his bow. They had seemed so friendly after you left—but they were short of food—"

Her voice was sobbing now, but she kept on, and she set a pace that Harkness could not outdistance.

"One aimed a spear at me, and Chet threw himself between. I saw the spear strike—then I ran. I thought I heard your motors—I screamed for you—"

They were nearing the caves. A fire was burning in the open glade where grotesque figures leaped and danced in cannibal glee about a figure that lay motionless upon the ground.

The tattered, wind-blown clothing—the curling hair, blond in the fire's light—it was Chet. . . . And now Harkness could fire.

His pistol held twenty rounds. He emptied it into the shrieking group, then jammed in more of the shells and fired again. He fired until no target remained, and every savage figure was either vanished among the trees or inert and lifeless upon the ground, their only motion the stirring of their hairy coverings in the breeze.

HARKNESS was beside the prostrate figure. He raised Chet's head within his arms; Diane's brown head leaned close, her gasping breath broken by dry sobs. The firelight flickered upon the closed lids to give them semblance of life.

"Chet," said Walter Harkness softly. "Chet, old man—can't you speak? We'll save you, Chet; you're not done for yet." But he felt as he spoke that the words were a horrible lie; the blood that ran slowly now from a wound in Chet's side seemed to speak more truly than did he.

Yet Chet Bullard opened his eyes. His breath was the merest flutter; the listeners bent their heads close to hear.

"Made it, did you?" asked Chet in a ghastly whisper. "And you've saved Diane? . . Good! . . . Well, it's been a great trip. . . . It's been worth the price. . . ."

Harkness seized at the girl's name.

Here was something that might strike home to the sinking man; might rouse him.

"Yes, Diane is saved," he told Chet: "saved for you, old fellow. You must live—for Diane's sake. You love her, and she needs you."

Again the tired eyes opened. Once more the fluttering breath formed words; lips moved to bring a pale ghost of Chet's ready smile like a passing light across his face.

"Needs me? Diane?" It was a question and a denial. He was looking straight at Harkness as he added: "It's you she needs. . . . You're one square old sport, Walt, but dumb—awfully dumb. . . ."

GLORIOUS adventure! — and the price is so often death. "A great trip," Chet Bullard had said; "it's been worth the price." Chet was prepared to pay in full.

But—there was the ship! Walt Harkness, as she finished bandaging the body of the unconscious man, stared first at the metal cylinder, gleaming, brilliant in the Earthlight; then his gaze went to the Earth that had risen over distant peaks with the glory of a thousand moons. And he dared to hope.

He brought the ship softly to rest close to where Chet lay, then placed the limp form on the self-adjusting floor of the control room. There must be no shifting of the body as the pull of gravitation ceased. Soft blankets made a resting place for him.

The entrance port was closed and sealed; and the ship rose gently under his touch. And, below them, the mirrors showed a world that sank away. Diane's head was pressed near to his to watch that vanishing world.

Each rugged mountain was softened in the Earthlight's mellow glow; they melted together, and lost all sharpness of form. And the light faded and vanished as they rose into the blanket of gas that blocked off the return rays and made of this world a dark moon.

No regret now for the territory that was unexplored. Harkness told himself he would return. And, with the vanishing of that world his thoughts were only of the little flame of life that still flickered in Chet's body, and of the Earth, and of the metal ball that was swinging them out and away. . . . The sound of the stern exhaust built up and up to the roaring thunder that meant the blast was opened full. . . .

CHAPTER XI

"Nothing to Be Done"

UNMOVING, their ship seemed, through the long hours. Yet there were lights that passed swiftly and unnoticed, and the unending thunder from the stern gave assurance that they were not floating idly in the vast sea of space.

The sun was behind them, and ahead was Earth in midday glory; Harkness could not tear his eyes away from that goal. He stood always at the controls, not because there was work to be done, but for the feeling it gave him of urging the ship onward.

Diane ministered to Chet and dressed the wound. There were few words exchanged between them.

The menace that had emptied Earth's higher levels of all aircraft was still there. No ships were in sight, as Harkness guided his ship toward the great sphere. His speed had been cut down, yet still he outraced the occasional, luminous, writhing forms that threw themselves upon them. Then the repelling area—and he crashed silently through and down, with their forward exhaust roaring madly to hold them in check.

A sea and a shoreline, where a peninsula projected like a giant boot—and he knew it for Italy and

the waters of the Mediterranean.

"Vienna," Diane was telling him; "go to Vienna! It is nearby. And I know of a surgeon—one of the greatest!"

And an hour later, a quiet, confident man was telling them: "But yes!—of a certainty he will live. It is fortunate that you were not very far away when the accident occurred." And only then did Harkness catch Diane's eyes in an exchange of glances where unbearable relief was tempered with amusement.

THE great hospital had its own landing stages on its broad roof. Their ship was anchored there, an object to excite the curiosity of a gathering throng.

"Not a healthy place for me, here in Vienna," Harkness remarked. He was lifting the ship from its anchorage, its errand of mercy done.

"Now where?" he pondered aloud. The strain of the flight was telling on him.

The girl recognized the strained look in his eyes, the deep lines that their experiences had etched upon his face. Gently she drew his hand from the controls.

"I will take it," she said. "Trust me. Lie down and rest."

Harkness had witnessed an example of her flying skill; she could handle the ship, he knew. And he threw himself upon a cot in the cabin to sink under the weight of overpowering fatigue.

He felt the soft shock of their landing. Diane was calling him, her hand extended to lead him from the open port. But he was wrenched sharply from the lethargy that held him at sight of his surroundings, and the memories they recalled.

They were in a park, and their ship rested upon a spacious lawn. Beyond were trees where a ship had shot crashingly through storm-tossed limbs. And, before him, a chateau, where a window had framed the picture of a girl with outstretched arms.

"Trust me," Diane had said. And he did trust her. But did she not know what this meant? She was delivering him into the enemy's hands. He should have kept himself from sight until he had rallied his forces. . . . He was stammering words of protest as she led him toward the door. Armed guards were already between him and the ship.

IN a dark-panelled room Herr Schwartzmann was waiting. His gasp of amazement as he sprang to his feet reflected the utter astonishment written upon his face, until that look gave place to one of satisfaction.

"Mademoiselle," he exclaimed, "—my dear Madamoiselle Diane! We had given you up for lost. I thought—I thought—"

"Yes," said Diane quietly, "I believe that I can well imagine what you thought."

"Ah!" said Herr Schwartzmann, and the look of satisfaction deepened. "I see that you understand now; you will be with us in this matter. We have plans for this young man's disposal."

The puzzled wonder that had clouded the steady eyes of Walter Harkness was replaced by cold anger and more than a trace of contempt.

"You can forget those plans," he told Schwartzmann. "I have plans of my own."

"Poof!" exclaimed the heavy, bearded man. "We will crush you like that!" He struck one heavy fist upon the desk. "And what will you do?"

"Several things," said Harkness evenly. "I shall rid the upper levels of the monsters: I have a gas that will accomplish that. I shall restore the world's flying to normal. And, with that attended to, I will give you my undivided attention—raise

forty kinds of hell with Herr Schwartzmann and the interests he represents.

"Forgery! Theft! The seizing of my properties by virtue of a lying document! You shall see what this leads to. Your companies will be wrecked; not a decent man or woman engaged in the business of a decent world will deal with you: that is a small part of what I plan."

The dark face of Her Schwartzmann was flushed with anger. "You will never leave this place—" he began. But Harkness would not let him go on; his voice was as hard as the metal of his ship.

"You and your assassins!" he said contemptuously. "You don't dare touch me. There is another man who knows—and Diane, too." He paused to look into the eyes of the girl, which were regarding him with an inscrutable expression. "I do not know why she brought me here, but Diane also knows. You can't throttle us all."

"Diane!" The exclamation was wrung involuntarily from Schwartzmann's lips. "You speak of Madamoiselle Vernier so familiarly?"

THE girl's cool voice broke in. She had watched the meeting of the men in silence; she spoke now as one taking matters into her own quite capable hands.

"You may omit the incognito, Herr Schwartzmann," she said; "it is no longer required. I have enjoyed a birthday since last we met: it was passed in a place of darkness and anguish, where strong men and brave forgot their own suffering to try by every means to bring comfort to a girl who was facing death. For that reason I say that I enjoyed it. . . . And that birthday was my twenty-first. You know what that means."

"But Madamoiselle Vernier—pardon!—Mam'selle Delacoeur, surely you will support me. My trusteeship during all these successful years—"

"Is at an end," said the cool voice.

"I learned more than you were aware of in this last year while I familiarized myself with the interests that would soon be mine. No, Herr Schwartzmann, your methods do not appeal to me; they are an anachronism in the world of to-day."

Harkness was standing in stunned silence. "Delacoeur!" Diane was Mademoiselle Delacoeur! But that name had been borne by the wealthiest house of France! Old Delacoeur had died, possessed of millions beyond counting—and he had left a daughter—Diane!

His mind could not grasp the full significance of this. But one thing was clear: he could not aspire to the love of one of the queens of Earth. Whatever faint hope that remained in his heart was lost. . . . The cool voice was still speaking.

"You may leave now," she was saying—this girl who had been his comrade, so unfailingly tender, so true and steady in the face of incredible dangers. And Herr Schwartmann took his dismissal as one who cannot dispute his superior.

THE room was silent. Harkness stood with downcast eyes that followed with meticulous precision the intricacies of design in the rug on which he stood. A voice was speaking. Not the cool, imperative voice of Mademoiselle Delacoeur, mistress of vast estates, but the voice of Diane—the Diane he had learned to love—and it tore at his emotions until his mind was a whirl of conflicting thoughts.

A tender voice; and there was laughter in it and in the eyes that his own came despondently to meet.

"Such a man, this Walter Harkness!" she was saying. "So hard, so vindictive! Ah, the trouble he will make for me because of my conscienceless agents!"

Harkness threw out his hands in a helpless gesture. "Don't taunt me," he said. "You know you have me tied. You've drawn the charges from all my guns. There is nothing to be done."

Diane Delacoeur drew near. The raillery was gone from her voice, and the hand that she placed on his arm was trembling.

"Nothing?" she inquired. "Then, if friendly rivalry is impossible, would you consider, could there not be arranged—a merger of our interests? I am not thinking now of wealth, of which you will have far more than I: there are so much greater things in life—"

The eyes that clung to his were pleading now. And within them was the light that Walter Harkness at last could understand and define. He took the trembling hand in one of his that was suddenly strong, and with the other he raised a lovely face that no longer dared to meet his look.

"You mean—" he began, and fumbled for words to express an emotion that was beyond words. "Chet said—why, he said—that you needed me—"

Her reply came mingled with a tremulous laugh.

"I have the greatest regard," she whispered, "for Chet's judgement. But—do you—need me?"

Walt Harkness held the soft body close; bent nearer to catch the words. And he answered them with his own lips in an ecstasy of emotion that made nothing of the thrills to be found in that other conquest—of a Dark Moon.

A SCIENTIFIC HELL

SCIENCE playing the rôle of an up-to-date Persephone, visiting the underworld realm of Pluto to wrest from it hidden cosmic secrets, was described recently at a meeting of the American Geographical Society at the Engineering Building by Prof. Harlow Shapley, Harvard astronomical wizard, who told of the ultra-modern scientific version of Ulysses's descent into Hades or Dante's visit to hell.

Prof. Shapley, to whom 10,000,000 light-years are like a day to any ordinary mortal, and whose astronomical investigations have led him to the center of the cosmos, told the scientists present to descend to the bowels of the earth and construct therein "Plutonic Laboratories," where a man could learn many things unknown about beginnings and endings, and where, incidentally he may find a way of utilizing the tremendous heat energy stored up in the "scientific hell."

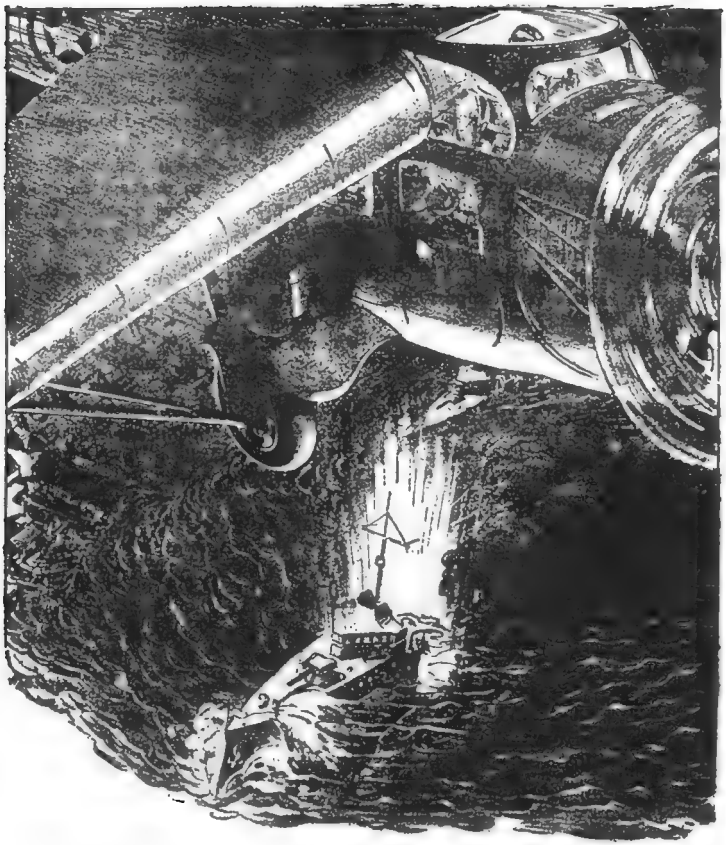
Under the general theme of the "Third Dimension in Geography," Prof. Shapley talked about the past, present and future of the earth-moon system; how in 50,000,000 years our days and months will be forty-seven times as long as they are now; how after that the moon will again approach the earth until it is broken up by tidal disruption into ring fragments circulating around the earth like the ring around Saturn; and of shooting stars coming from far-away solar systems.

"The temperature under the surface of the earth," said Prof. Shapley, "increases one degree Fahrenheit at every seventy-six feet, about seventy degrees per mile. In some places in California we get the temperature of boiling water at a depth of less than a mile. The center of the earth is roughly 4,000 miles below the surface.

"Because of this intense internal heat of the earth it would probably be impossible to maintain permanent laboratories at greater depths than two miles," said the lecturer, "and, in addition, the installation and maintenance of Plutonic laboratories will be a scientific adventure of great difficulty and expense. Yet, if carried on in connection with the work of existing mines and borings it may mark the coming decade as one of the important epochs in man's attempt to understand the earth.

"These Plutonic laboratories, placed at various depths under the surface, fully equipped with modern scientific apparatus, and maintained indefinitely, will contribute to our knowledge in a dozen important fields of geophysic and astronomy."

What Prof. Shapley pointed to as merely a possible by-product of the proposed scientific "descent into Hades" is the commercial possibility of tapping the earth's internal source of heat. There is 31,000,000 times as much natural heat in the earth than in all the coal resources of the world. He stated that Sir Charles Parsons and John L. Hodgson, both noted British engineers, are already engaged in work on this problem.



From the bump on the side of the submarine came a flash of red light.

When Caverns Yawned

By Captain S. P. Meek

BELLS jangled discordantly. A whistle split the air with a piercing note. A band blared away on the platform. With a growing rumble of sound, the Presidential special slowly gathered headway. The President waved a final farewell to the crowds at the platform and sat down. He chatted cheerily with his companions until the train was clear of Charleston, then rose, and with a word to the others stepped into the car. Operative

Only Dr. Bird's super-scientific sleuthing stands in the way of Ivan Saranoff's latest attempt at wholesale destruction.

Carnes of the United States Service slumped back in his chair with a sigh of relief.

"Thank Goodness, that's over," he said. "I was never so glad to get him safely away from a place in my life."

Haggerty of the secret service nodded in agreement. Colonel Holmes, the military aide, looked up inquiringly.

"Why so? Do you think Charleston an especially dangerous place for him to be?"

"Not ordinarily. Charleston is a very patriotic and loyal city, but I have been worried. There have been vague rumors going around. Nothings definite that we could pin down, but enough to make me pretty uneasy."

"I think you've worried needlessly. I have been in constant touch with the Military Intelligence Division and they have reported nothing alarming."

Haggerty chuckled at the look of disgust that spread over Carnes' face. Colonel Holmes bridled visibly.

"Now look here, Carnes," he began.

"Oh, horse-feathers!" interrupted Carnes. "The M. I. D. is all right in its place— Good Lord! What's that?"

THE train gave a sudden sickening lurch. Colonel Holmes sprawled in an undignified heap in one corner of the observation platform. Carnes and Haggerty kept their feet by hanging on to the rails. From the interior of the car came cries of alarm. The train righted itself for a moment and then lurched worse than before. There was a scream of brakes as the engineer strove to halt the forward progress. The train swayed and lurched like a ship in a storm. Carnes sprang for the telephone connected with the engine cab and rang excitedly.

"Hello, Bemis," he cried when an answer came: "take off the brakes! Keep moving at full speed, no matter what happens. What? Use your gun on him, man! Keep moving even if the train tips over!"

The train swayed and rocked worse than ever as it began to gather momentum. Carnes looked back along the track and gasped. For three hundred yards behind them, the track was sinking out of sight. The train forged ahead, but it was evident that it also was sinking into the ground. The track behind them suddenly gave. With a roar like a hundred buildings collapsing, it sank out of sight in a cloud of dust. The rear car of the train hung partially over the yawning cavern in the earth for an instant before the laboring engine dragged it to solid ground. The swaying and lurching grew less. For a mile it persisted to a slight degree. With a face the color of a sheet, Carnes made his way into the train. The President met him at the door.

"What's the trouble, Carnes?" he demanded.

"I am not sure, Mr. President. It felt like an earthquake. A great cavern opened in the earth behind us. Our train was almost trapped in it."

"An earthquake! We must stop the train at once and take charge of the situation. An emergency of that sort demands immediate attention."

"I beg you to do nothing of the sort, sir. Your presence would add little to the rescue work and your life is too precious to risk."

"But my duty to the people—"

"Is to keep yourself alive, sir! Mr. President, this may well be an attempt on your life. There are persons who would give anything to do away with you, especially at present. You have not endeared yourself to a certain class in calling for a conference of the powers to curb Russia's anti-religious tactics."

THE President hesitated. He knew Carnes well enough to know that he usually spoke from accurate knowledge and with good judgment.

"Mr. President," went on the operative earnestly, "I am responsible to the American people for your safety. I beg you to follow my advice."

"Very well, Carnes," replied the President, "I'll put myself in your hands for the present. What is your program?"

"Your route is well known. Other attempts may be planned since this one failed. Let me have you transferred incognito to another train and hurried through to Washington secretly. I am going to drop off and go back. That earthquake needs to be looked into."

Again the President hesitated.

"My desertion of the stricken area will not be favorably regarded. If I sneak away secretly as though in fear, it will be bad for the public morale."

"We'll let the special go through. No one need know that you have left it."

"Well—I guess you're right. What are you going to do about it?"

"My first move will be to summon Dr. Bird from Washington."

"That's a good move. You'd better have him bring Dr. Lassen with him. Lassen is a great volcano and earthquake specialist, you know."

"I will, sir. If you will get ready to drop off at the next connecting point, I'll send Haggerty and Bemis with you. The rest of the party can remain on the special."

"All right, Carnes, if you insist."

CARNES went forward to the operator of the train's radio set. In half an hour the special came to a stop at a junction point and four men got off. Ten minutes later three of them climbed aboard another train which stopped for them. Carnes, the fourth man, hurried to a telephone. Fifteen minutes later he was talking to Dr. Bird at the latter's private laboratory in the Bureau of Standards.

"An earthquake, Carnes?" exclaimed the doctor as the operative described the happenings. "Wait a few minutes, will you?"

In five minutes he was back on the telephone.

"It was no earthquake, old dear, whatever it may have been. I have examined the records of all three of the Bureau's seismographs. None of them record even a tremor. What are you going to do?"

"Whatever you say, Doctor. I'm out of my depth already."

"Let me think a moment. All right, listen. Go back to Charleston as quickly as you can and get in touch with the commanding officer at Fort Moultrie. I'll have the Secretary of War telephone him and give him orders. Get troops and go to the scene of the catastrophe. Allow no one near it. Proclaim martial law if necessary. Stop all road and rail traffic within a radius of two miles. Arrest anyone trying to pass your guard lines. I'll get a plane from Langley Field and come down on the run. Is that all clear?"

"Perfectly, Doctor. By the way, the President suggested that you bring Dr. Lassen with you."

"Since it wasn't an earthquake, he wouldn't be of much value. However, I'll bring him if I can get hold of him. Now start things moving down there. I'll get some apparatus together and join you in five hours; six at the outside. Have a car waiting for me at the Charleston airport."

CARNES commandeered a passing car and drove back to Charleston. He made a wide sweep to avoid the disturbed area and went direct to Fort Moultrie. Dr. Bird had been good at his word. The troops were assembled in heavy

marching order when the detective arrived. A few words to the commanding officer was sufficient to set the trucks loaded with soldiers in motion. Carnes, accompanied by the colonel and his staff, went direct to the scene of the catastrophe.

He found a hole in the ground, a hundred feet wide and a quarter of a mile long, sunk to a depth of fifty feet. He shuddered as he thought of what would have happened had the Presidential train been in the center of the devastated area instead of at the edge. The edges of the hole were ragged and sloping as though the earth had caved in to fill a huge cavern underground.

State and local authorities were already on the ground, striving to hold back sightseers. They were very glad to deliver their responsibility to the representative of the federal government. Carnes added their force to that of the military. In an hour a cordon of guards were stationed about the cavern while every road was picketed two miles away. Fortunately there had been no loss of life and no rescue work was needed. The earth-shaking had been purely a local matter, centered along the line of the railroad track.

There was nothing to do but wait. Carnes thought furiously. He had worked with Dr. Bird long enough to have a fair idea of the scientist's usual lines of investigation.

"The first thing he'll want to do is to explore that hole," he mused. "Probably, that'll mean some excavating. I'd better get a wrecking train with a crane on it and a steam shovel here. A gang of men with picks and shovels might be useful, too."

He hurried to the railroad officials. The sight of his gold badge had the desired result. Telegraph keys began to click and telephones to ring. Carnes was sorely tempted to explore the hole himself, but he resisted the temptation. Dr. Bird was not always pleasant when his colleagues departed from the orders he had given.

THE morning passed, and the first part of the afternoon. Two wrecking trains stood with steam up at the edge of the hole. Grouped by the trains were a hundred negroes with shovels and picks. Carnes sat at the edge of the hole and stared down into it. He was roused from his reverie by the sound of a motor.

From the north came an airplane. High over the hole it passed, and then swerved and descended. On the under side of the wings could be seen the insignia of the Air Corps. Carnes jumped to his feet and waved his hat. Lower came the plane until it roared across the cavern less than a hundred feet above the ground. Two figures leaned out and examined the terrain carefully. Carnes waved again. One of the figures waved a hand in reply. The plane rose in the air and straightened out toward Charleston.

"We'll have the doctor here in a few minutes now," said Carnes to the Colonel. "It might be a good plan to send a motorcycle out along the Charleston road to bring him in. We don't want the guards to delay him."

The colonel gave an order and a motorcycle shot off down the road. In half an hour it came sputtering back with a huge Cadillac roaring in its wake. The car drew up and stopped. From it descended two men. The first was a small, wizened figure with heavy glasses. What hair age had left to him was as white as snow. The second figure, which towered over the first, was one to merit attention anywhere.

DR. BIRD was as light on his feet and as quick and graceful as a cat, but there was nothing feline about his appearance. He stood well over six feet in his stockings and

tipped the beam close to the two hundred mark. Not one ounce of fat was on his huge frame. So fine was he drawn that unless one looked closely he would never suspect the weight of bone and muscle that his unobtrusive tweed suit covered. Piercing black eyes looked out from under shaggy brows. His face was lean and browned, and it took a second glance to realize the tremendous height and breadth of his forehead. A craggy jutting chin spoke of stubbornness and the relentless following up of a line of action determined on. His head was topped with an unruly shock of black hair which he tossed back with a hand that commanded instant attention.

His hands were the most noteworthy thing about the famous Bureau scientist. Long slender hands, they were, with slim tapering fingers—the hands of an artist and a dreamer. The acid stains that marred them could not hide their slim beauty, yet Carnes knew that those hands had muscles like steel wire and that the doctor boasted a grip that could crush the hand of a professional wrestler. He had seen him tear a deck of playing cards in half and, after doubling, again in half, with as little effort as the ordinary man would use in tearing a bare dozen of the cards. As he climbed out of the car his keen black eyes swept around in a comprehensive glance. Carnes, trained observer that he was, knew that in that one glance every essential detail which it had taken him an hour to place had been accurately noted and stored away in the doctor's mind. He came forward to the detective.

"Has anything happened since you telephoned me?" was his first question.

"Nothing, Doctor. I followed your instructions and also assembled a crew of men with excavating tools."

"You're improving, Carnes. This is Dr. Lassen. This is a little out of your line, Doctor, but you may see something familiar. What does it look like to you?"

"Not like an earthquake, Bird, at all events. Offhand I would say that a huge cavern had been washed in the earth and the ground had caved in."

"It looks that way. If you are right, we should find running water if we dig deep enough. Have you been down in the hole, Carnes?"

"No, Doctor."

"Then that's the first thing to do. You have ropes, of course?"

CARNES called to the waiting gang of negroes and a dozen of them hurried up with ropes. Dr. Bird slung a rope around his body under his arms and was lowered into the hole. The rope slackened as he reached bottom. Carnes lay on his stomach and looked over the edge. Dr. Bird was gingerly picking his way across the ground. He turned and called up.

"Carnes, you and Lassen can come down if you care to."

In a few minutes the detective and the volcanologist joined him in the cavern. The top surface of the ground was rolled up into waves like the sea. The sides of the hole were almost sheer. The naked rock was exposed for thirty feet. Above the rock could be seen the subsoil, and then the layer of top soil and vegetation. Dr. Bird was carefully examing the rock wall.

"What do you make of these, Lassen?" he asked, pointing to a row of horizontal striations in the rock. The volcanologist studied them.

"They might be water marks but if so they are different from any that I have seen before," he said doubtfully. "It looks as though some force had cut the rock away in one sharp stroke."

"Exactly. Notice this yellow powder on the ridges. Water would have washed it away."

Dr. Bird stepped forward to the wall and idly attempted to pick up a pinch of the yellow powder he had referred to in his fingers. He gave an exclamation of surprise as he did so. The powder was evidently fast to the wall. He drew his knife from his pocket and pried at the stuff. It fell readily. He scraped again and caught a speck of the falling powder in his hand. He gave a cry of surprise, for his hand sank as though borne down by a heavy weight. With an effort he lifted his hand and examined the substance.

"Come here, Carnes," he said. "Hold your hand up to catch some of this powder as I scrape it off."

THE detective held up his hand. Dr. Bird pried with his knife and a shower of dull yellow particles fell. Carnes' hand sank as though the bits of dust had been a lead bar. He placed his other hand under it and with an effort lifted both hands up a few inches.

"What on earth is this stuff, Doctor?" he cried. "It's as heavy as lead."

"It's a great deal heavier than lead, Carnesy, old dear. I don't know what it is. I am inclined to think you did a wise thing when you sent for me. Lassen, take a look at this stuff. Did you ever run into anything like it?"

The aged volcanologist shook his head. The yellow powder was something beyond his ken.

"I have been poking around volcanos all my life," he said, "and I have seen some queer things come out of the ground—but nothing like that."

Dr. Bird poked tentatively at the substance for a moment, his brow furrowed in lines of thought. He suddenly threw back his shoulders in a gesture of decision.

"Send a gang of excavators down here," he cried. "Never mind the power shovel at present."

DOWN the ropes swarmed the gang of negroes. Dr. Bird indicated an area at one end of the cavern and directed them to dig. The blacks flew to work with a will. The top soil and subsoil were rapidly tossed into buckets and hauled to the surface. When bare rock lay before them, the negroes ceased their efforts.

"What next, Doctuh, suh?" asked the foreman.

"Get dynamite!" cried the doctor. "If I'm right, this underground cavern is entered by a tunnel. We'll blast away this caved-in rock until we locate it."

Then occurred a strange thing.

"There is no need to go to that trouble, Dr. Bird," spoke a metallic voice, from nowhere, it seemed. The negroes looked at one another. Picks and shovels fell from nerveless hands.

"Your guess about a tunnel is correct, Doctor," went on the Voice. "There is a tunnel leading away from the spot where you are, but to find the end would be useless to you. I have prepared for that."

From the blacks came a low moan of fear.

"Ha'nts!" cried one of them. The cry was taken up and spread into a rolling chorus of fear. With one accord they dropped their tools and stampeded in a mad rush toward the dangling ropes. Carnes sprang forward to stop them.

"Let them go, Carnes!" cried the doctor. "Their work is done for the present. Let's locate that radio receiver."

"That also will be a useless search, Doctor," spoke up the Voice again. "I have perfected a transmitter which will send my voice through space and make it audible without the aid of the clumsy apparatus you depend on. I am also able to see you through the miles of intervening rock without the aid of any instruments at your end."

"I PRESUME that you can hear me as well?"

"Certainly, Doctor. To save you trouble—and I dislike to see you waste the efforts of your really good brain on minor problems—I will tell you that your surmise is correct. A tunnel does lead both to and from the place where you stand. It twists and turns so that even you would be puzzled to plot a general direction. You would have to follow it inch by inch. If you tried that, naturally I would cause it to collapse before you, or on top of you, if you got too close. Be content with what you have seen and seek a better way to trace me."

"Who are you, anyway?" blurted out Carnes.

"Is it possible that you do not know? Such is fame. I thought that at least my friend Mr. Carnes would suspect that Ivan Saranoff had done this."

"But you're dead!" protested the detective. "We killed you when we destroyed your helicopter."

"You killed merely an assistant who had disobeyed my orders. Had I not decreed his death, he would be alive to-day. I could kill you as you stand there; resolve you into nothingness; but I do not choose to do so—yet. Other attempts I have made you have frustrated, but this time I shall succeed. I will institute a reign of terror which will bring your rich, foolish country to its knees. Listen, while I give you a taste of my power. The city of Charleston is about to be destroyed."

A thunderous roaring filled the air. Crash followed crash in rapid succession. It sounded as though all the noise of the universe had been concentrated in the cavern. The earth shook and rocked like a restless sea. From above came cries of terror.

The three men in the cavern were thrown to the ground. Shaken by the fall and deafened by the tumult, they hung onto irregularities of the rock on which they lay. Gradually the tumult and the shaking subsided. The cries from above became more apparent. Silence finally reigned in the cavern and the metallic Voice spoke again.

"Go back now and look at Charleston and you will see what to expect. The rest of your cities will soon share the same fate. Beware of trying to trace my movements, for your lives are in the hollow of my hand."

THE Voice died away in silence. From the edge of the hole came a cry. A Fort Moultrie officer was peering down at them.

"Are you all right down there?" he hailed.

"Right as hops," called Dr. Bird cheerfully. "What happened up above?"

"I don't know, Doctor. There seems to be a lot of smoke and fire over in the direction of the city. I expect the quake shook them up a little this time. What shall we do now?"

"We're ready to come up. First I'm going to send up a wheelbarrow full of yellow powder. Rig a crane to lift it, for it's too heavy to try to hoist with ropes."

With the aid of Carnes and Dr. Lassen, Dr. Bird collected a few cubic inches of the yellow powder from the ridges in the rock. He made the wheelbarrow containing it fast to the wire cables of the crane and gave the signal. Slowly it was raised to the surface. When it had safely reached there he turned to his companions.

"Grab a rope and let's go," he said.

In a few moments they were on the upper level. With the efforts of half a dozen men, the body of the wheelbarrow was lifted into the car. With a few final words of instruction to the colonel, Dr. Bird and his companions entered the car and were whisked away to the city.

A spectacle of destruction and ruin awaited them. Fully one-fourth of the city had sunk thirty feet into the ground. The sinking was not even nor uniform. The sunken ground was rolled into huge waves while buildings which had collapsed lay in confused heaps on all sides. From a dozen places in the area, columns of fire rose in the air.

DR. BIRD wasted little time on the scene before him. His car skirted the edge of the huge hole and took the road toward the Charleston airport, which was in a section which had suffered little. In half an hour the army transport roared into the air carrying Dr. Bird's precious load of yellow powder. Four hours later they dropped to a landing at Langley Field.

"Now Carnes," said the doctor as they debarked from the plane, "there is work ahead. It may be too late to do much to-night, but we have no time to waste. Get Bolton on the wire and tell him that we have positive evidence that Saranoff is still alive and still up to his devil's tricks. Start every man of the secret service and every Department of Justice agent that can be spared on the trail. He can't live underground all the time, and you ought to get on his tracks somehow. I'm going up to the laboratory and see what I can do with this stuff. Report to me there to-morrow morning.

Carnes hurried away. Bolton, the chief of the United States Secret Service, had long ago recovered from any professional jealousy he had ever felt of Dr. Bird. The doctor's message that Ivan Saranoff, the arch-enemy of society, the head of the Young Labor party, the unofficial chief of the secret Soviet forces in the United States, was alive and again in the field against law and order was enough to set in motion every force that he controlled. Waving aside precedent and crashing his way past secretaries, he set in motion not only the agents of the Department of Justice but also the post-office forces and the specialized but highly efficient Military and Naval Intelligence Divisions. The telephone and telegraph wires from Washington were kept busy all night carrying orders and bringing in reports. But despite all this activity, it was with a disappointed face that Operative Carnes sought the doctor in the morning.

DR. BIRD was in his private laboratory on the third floor of the Bureau of Standards. When Carnes entered he was seated in a chair at his desk. His black eyes shone out from a chalky face like two burned holes in a blanket. Carnes started at the appearance of utter weariness presented by the famous scientist. Dr. Bird straightened up and squared his shoulders as the detective entered.

"Any luck, Carnes?" he asked eagerly.

"None at all, Doctor We haven't been able to get a single trace of his corporeal existence since that submarine was destroyed off the Massachusetts coast. All we have is Karuska's word that he is still alive."

"We heard his voice yesterday."

"His or another's."

"True. Have you set in motion every agency that the government has?"

"Every one. Either Bolton or I have talked to the Chief of Police in every large city in the United States and Canada. Every known member of the Young Labor party who is above the mere rank and file is under close surveillance."

"Good enough. Keep at it and you'll trace him eventually. As soon as I get a few quarts of black coffee into my system, I'll start another line of search going."

"What did you find out last night?"

"I found that our seismograph recorded the Charleston disaster. It was merely a faint jog, about what should be caused by a severe landslide. The disaster did not affect the earth's crust, but was purely local. That gives me a clue to his method."

"I described the affair to Bolton and he suggested that it might be caused by a disintegrating ray."

DR. BIRD snorted. "When will people learn that there is not, and in the nature of things never can be, a disintegrating ray?" he exclaimed. "Of course a ray can be made which will tear things down to their constituent elements, but matter is indestructible, and the idea of wiping matter out of existence is absurd."

"But I have heard you say that matter and energy were interchangeable."

"That is a different proposition. I believe they are. In fact, if you remember, Carmichael proved it, although the proof was lost at his death. Nothing of the sort was done at Charleston, however. Do you know how much energy is contained in matter? Well, a cubic inch of copper would drive the largest ship afloat around the world twice, and across the Atlantic to boot. The energy contained in the cubic yards of rock that were removed under Charleston would have blown the world to fragments."

"Then what did happen?"

"Matter, as you know, is composed of atoms. These atoms are as far from one another, compared to their size, as the stars and planets of the universe. Each atom in turn is composed of electrons, negative particles of electrical energy, held in position about a fixed central nucleus of positive electricity known as a proton. I speak now of the simplest element. Most of them have many protons and electrons in their make-up. The space between these particles compared with their size is such that the universe would be crowded in comparison."

"What does that lead to?"

"I have described the composition of lead, the densest known element, over thirteen times as heavy as water, bulk for bulk. Conceive what it would mean if some force could compress together these widely separated particles until they touched. The resulting substance would be an element of almost inconceivable density. Such a condition is approached in the stars, some of which are as high as four thousand times as dense as the earth. What Saranoff has done is to find some way of compressing together the atoms into that yellow powder which we found in the cavern. He has not gone to the limit, for the stuff is only a little over four thousand times as dense as water. A cubic inch of it weighs one hundred and thirty-two pounds. With its density increased to that extent, the volume is reduced accordingly. That was what accounted for those caverns into which the earth tumbled."

"I'll believe you, Doctor," replied the detective; "but I'd believe you just as quickly if you swore that the moon was made of cream cheese made from the milk taken from the milky way. One would be just as understandable to me as the other."

THEY were interrupted by the entrance of a waiter who bore a huge pot of steaming coffee. Dr. Bird's eyes lighted up as a cup was poured. Carnes knew enough not to interrupt while the doctor poured and drank eight cups of the strong black fluid. As he drank, the lines of fatigue disappeared from the scientist's face. He sat up as fresh as though he had not been working at high pressure the entire night.

"Dr. Fisher tells me that the amount of caffeine I drink would kill a horse," he said with a chuckle;

"but sometimes it is needed. I feel better now. Let's get to work."

"What shall we do?"

"Despite Saranoff's words, it must be possible to trace him. He is undoubtedly releasing his energy from some form of subterranean borer, and such a thing can be located. The energy he uses must set up electrical disturbances which instruments will detect. I have had work started on a number of ultra-sensitive wave detectors which will record any wave-length from zero to five millimeters. We'll send them to various points along the seacoast. They ought to pick up the stray waves from the energy he is using to blast a path through the earth. I'm not going to bother with the waves from his motor; they may be of any wave-length, and there would be constant false alarms. I have another idea."

"What is it?"

"I am judging Saranoff from his previous actions. You remember that he used a submarine in that alien-smuggling scheme the Coast Guard broke up, and also when he loosed that sea monster on the Atlantic shipping? He seems to be rather fond of submarines."

"Well?"

"THE amount of energy he uses must be almost inconceivable," Dr. Bird went on. "He can hardly carry an amount of fuel which will enable him to bore underground for very many miles. Charleston is on the coast. I have an idea that he uses a submarine to transport his borer from point to point. After using the borer he must return to the submarine for recharging and transportation to the point where he plans to strike next. I already have two hundred planes scouring the sea looking for such a craft."

"Where do you expect him to strike next?"

"I have no idea. New York and Washington will undoubtedly be targets eventually, but neither of them may be next. Meanwhile, would you like to do a little more flying?"

"Surely."

"A plane is waiting for us at Langley Field. I want to look over the coast in the vicinity of Charleston Harbor and some of the sounds near there. If he is using a sub, he must have a base somewhere."

WITH a competent pilot at the stick, Carnes and the Doctor spent the day in exploring. The day yielded no results, and with the coming of dusk they landed at Savannah for the night. Carnes talked with Bolton over the telephone, but the secret service chief could report no favorable progress. Tired and disgusted, they retired early, but they were not destined to enjoy a night of uninterrupted sleep. At one o'clock a telegram was brought to their room. Dr. Bird tore it open and glanced sleepily at it.

"Get up, Carnes," he cried sharply. "Read this!"

The yawning detective glanced at the telegram. It contained only two words and a signature. It was signed "Ivan," and read simply, "Watch Wilmington."

"What the dickens?" he exclaimed as he studied the yellow slip. Dr. Bird was hurriedly pulling on his clothes.

"Saranoff has slipped a cog this time," said the doctor. "He sent that as a night message, but it was delivered as a straight message through error. He has got further north than I expected. We will turn out our pilot and take off. We should make Wilmington by daybreak. I'll telephone Washington and have a couple of destroyers started up Delaware Bay at once. We ought to give him a first class surprise party. I suppose that Philadelphia was meant to be his next stop."

In an hour the army plane took off

into the night. At seven o'clock they were circling over Wilmington. The city had not been disturbed. For an hour they flew back and forth before they landed. Startling news awaited them. At six that morning an earthquake had struck Wilmington, North Carolina. Half the town had sunk into the earth. Dr. Bird struck his brow with his clenched fist.

"Score one for the enemy," he said grimly. "We were too sure of ourselves, Carnes. We should have realized that he would hardly be so far north yet. Well, I've got to use the telephone while we're refueling."

WITHIN an hour after landing they were again in the air. One o'clock found them over the stricken city. Dr. Bird wasted no time on Wilmington but headed north along the coast. For a hundred miles he skirted the shore, two miles out. With an exclamation of disappointment he ordered the pilot to turn the plane and retrace his route southward, keeping ten miles from the shore. Fifty miles south he ordered the plane further out and again turned north. From time to time they passed a ship of the air patrol which was steadily skirting the coast, but none of them had seen a submarine. Off Cape Hatteras the pilot asked for orders.

"The gas is running low, Doctor," he said. "I think we had better put in somewhere and refuel. If we are going to keep the air much longer, you had better get a relief pilot. I have been flying for thirty hours out of the last thirty-six and I'm about done."

"Head back for Washington," said the doctor with a sigh. "I seem to have gone off on a false scent."

At Cape Charles the pilot swung east over Chesapeake Bay. Hardly had he turned than Dr. Bird gave a cry. Excitedly he pointed toward the water. Carnes grasped a pair of binoculars and looked in the direction Dr. Bird was indicating. Sliding along under the water was a long cigar-shaped shadow.

"It's a submarine!" exclaimed Carnes. "Is it a navy ship or the one we're after?"

"It's no navy sub," said the doctor positively. "It's not the right shape. Look at that bump on the side!"

The symmetry of the craft was marred by a huge projection on one side that could not be explained by the pattern of any known type of underwater craft.

"He's towing the borer!" cried the doctor in exultation. He took up the speaking tube. "Turn back to sea!" he cried. "We passed four destroyers less than ten miles out. We want to get in touch with them."

The plane roared out to sea while Dr. Bird feverishly sounded the "Alnav" call on the radio sending set. In a few minutes an answer came. From their point of vantage they could see flags break out at the peak of the destroyer leader. The four ships turned into column formation and stormed at full speed into the bay. The plane raced ahead to guide them.

"We've got him this time, Doctor!" cried Carnes in exultation. He pointed to the bay below where the submarine was still making its way slowly forward. Dr. Bird shook his head.

"I hope so," he said, "but I have my doubts. Saranoff is no fool. He wouldn't walk into a trap like this unless he had some means of escape. Here comes the first destroyer. We'll soon know the truth."

WITH the radio set he directed the oncoming boat. The destroyer reduced to half speed and changed direction slightly. From side to side she maneuvered until she was less than half a mile behind the submarine and headed straight for it. Dr. Bird tapped a few words on his key. With a belch of smoke,

the destroyer lurched forward. She cut the waters with her sharp bow, throwing up a wave higher than her decks. Dr. Bird watched anxiously.

The destroyer was almost over the submarine and Dr. Bird's fingers trembled on the key. One word from him would send a half dozen depth charges into the water. On came the destroyer until it was directly over the underseas craft. Dr. Bird pounded his key rapidly.

"Good Lord!" cried Carnes.

From the bump on the side of the submarine came a flash of red light. The destroyer staggered for a moment, and the entire central section of the ill-fated ship disappeared. The bow and stern came together with a rush and went down in a swirling maelstrom of water. The plane lurched in the air as a thundering crash rose from the sea.

The second destroyer, in no way daunted by the fate of her colleague, rushed to the attack. Dr. Bird pounded his key frantically in an attempt to turn her back. His message was too late or was misunderstood. Straight over the submarine went the second ship. Again came the red flash. The forward half of the destroyer disappeared and the stern slid down into a huge hole which had opened in the water.

"He's invulnerable!" cried the doctor. He pounded his key with feverish rapidity. The two remaining destroyers slackened speed and veered off. Slowly, as though loath to turn their backs on the enemy, they headed out for the broad Atlantic and comparative safety.

The submarine went slowly on her way. She did not turn west at the mouth of the Potomac but continued on up the bay. As long as there was light enough, the doctor's plane kept above her, but the fading light soon made it impossible to see her. When she had disappeared from view, the doctor reluctantly gave the word to return to Washington.

"WHERE do you suppose he will attack next, Doctor?" asked Carnes when they sat again in the doctor's private laboratory.

"Washington, of course," said Dr. Bird absently as he looked up from a pile of telegrams he was running through.

"Why Washington?"

"Use your head. Representatives of every civilized power are in Washington now at the President's invitation to consider means of halting the anti-religious activities of the Soviets. The destruction of the city and the killing of these men would be a telling blow for Russia to strike."

"But, Doctor, you don't think—"

"Excuse me, Carnes: that will keep. Let me read these telegrams."

For half an hour silence reigned in the laboratory. Dr. Bird laid down the last message with a sigh.

"Carnes," he said, "I'm checkmated. I sent out a hundred ultra-sensitive short wave receivers yesterday. Four of them were located within fifty miles of Wilmington, North Carolina. One of these four was destroyed, but none of the others detected a sign of a wave during the attack. One of them was within a hundred feet of the edge of the hole. If he isn't using a ray of some sort, what on earth is he using?"

"It looked like a flash of red light when it came from the submarine."

"Yes, but it couldn't be light. Let me think."

The doctor sat for a few minutes with corrugated brows. Suddenly he sprang to his feet.

"I deserve to be beaten," he cried. "Why didn't I think of that possibility before?"

HE hurried into his laboratory and brought out a small box with a glass front. From the top projected a spike topped with a ball. Through the glass, Carnes could see

a thin sheet of metal hanging pendant from the spike.

"An electroscope," explained the doctor. "That sheet of metal is really two sheets of gold-leaf, at present stuck together. If I rub a piece of hard rubber with a woolen cloth, the rod will become charged with static electricity. If I then touch the ball with it, the charge is transferred to the electroscope and causes the two sheets of gold-leaf to stand apart at an angle. Watch me."

He took a hard rubber rod and rubbed it briskly on his coat sleeve. As he touched the ball of the electroscope the sheets of gold-lead separated and stood apart at a right angle.

"As long as the air remains nonconducting, the two bits of gold-leaf will hold that position. The air, however, is not a perfect insulator and the charge will gradually leak off. If I bring a bit of radioactive substance, for instance, pitchblende, near the electroscope, the charge will leak rapidly. Do you understand?"

"Yes, but how is that going to help us?"

"Saranoff is accomplishing his result by artificially compressing the atoms. It is inevitable that he will do it imperfectly, and some electrons will be loosened and escape. These electrons, traveling up through the earth, will make the air conducting. To-morrow we will have a means of locating the borer under ground."

"Once you locate it, how will you fight it?"

"That is the problem I must work out to-night."

"Could we bury a charge of explosive and blow it up?"

"ORDINARY explosives would be useless," the doctor answered. "They would react in the same manner as other substances, and would be rendered harmless. Radite might do the work if it could be placed in the path, but it couldn't be. We may locate the position and depth of the borer, but long before we could dig and blast a hole deep enough to place a charge of radite before it, it would have passed on or changed direction. No, Carnes, old dear, the only solution that I can see is to turn his own guns on him. If I can, before morning, duplicate his device, we can train it on the spot where he is and reduce him and his machine to a pinch of yellow powder."

"Can you do it, Doctor?"

"What one man's brain can device, another man's brain can duplicate. The only question is that of time. I am confident that Saranoff will attack Washington to-morrow. If I can do the job to-night, we may save the city. If not— At any rate, Carnes, your job will be to see that the President and all of the heads of the government are out of the city by morning. The President may refuse to leave. Knowing him as I do, I rather expect he will.

"In that case, the issue is in the hands of the gods. Now get out of here. I want to work. Report back at daybreak with a car."

Dr. Bird turned back to his laboratory.

"He must be using a ray of some sort, possibly a radium emanation," he muttered to himself. "That would have no wave motion and might accomplish the result, although I would expect the exact opposite from it. The first thing to do is to examine that powder with a spectroscope and see if I can get a clue to the electronic arrangement."

WHEN Carnes arrived at the Bureau of Standards at dawn he rubbed his eyes in astonishment. The buildings were lighted up and the grounds swarmed with workmen. Before the buildings were lined up a dozen trucks and twice that many

touring cars. A cordon of police held back the curious. Carnes' gold badge won him an entrance and he hurried up the stairs to Dr. Bird's laboratory. The doctor's face was drawn and haggard, but his eyes glowed with a feverish light. Workmen were carrying down huge boxes.

"What's up, Doctor?" demanded the detective.

"Oh, you got here at last, did you? You're just in time. If you'd been fifteen minutes later, you would have found us gone."

"Gone where?"

"Out into Maryland in an attempt to stop Saranoff in his progress toward Washington."

"Have you found your means of combating him?"

"I hope so, although it is not what I started out to get. Did you bring a car as I told you?"

"It's waiting below."

"Good enough. I'll go in it. Williams, are those projectors all loaded?"

"Yes, Dr. Bird. The magnet will be ready to go in five minutes. The electroscopes and the other light stuff are all loaded and ready to move."

"You have done well. I'll let you bring the trucks and heavy equipment while I go ahead with the instruments. Take the road out toward Upper Marlboro. If I don't meet you before, stop there for orders."

"Very well, Doctor."

"Come on, Carnes, let's go."

HE raced down the stairs with the detective at his heels. He went along the line of touring cars and spoke briefly to the drivers. He climbed into the car which Carnes had brought. As it started the other cars fell in behind it. At a speed of forty miles an hour, with a detachment of motorcycle police leading the van, the cavalcade rolled out through the deserted streets of Washington. Once clear of the city, the speed was increased.

"Did you persuade the President to leave?" asked the doctor.

"There wasn't a chance. The papers panned him so much for following my advice at Charleston that he has turned stubborn. He says that if all the forces of the government can't protect him against one man, he is willing to die."

"We've got to save him," said Dr. Bird grimly. "Hello, there's the Chesapeake ahead."

The doctor studied the country.

"We are about opposite the place where we left that sub last night. I fancy that Saranoff will operate from there, for it didn't move during the last half hour we watched it. We'll go back inland a mile or two and spread out. I have no idea how far his radiations will affect the electroscopes, but we'll try four hundred-yard intervals to start. That will enable us to cover a line twelve miles long."

He picked up a megaphone and spoke to the line of cars behind him.

"Take up four hundred yard intervals when we spread out," he said. "Every man keep his headphone on and listen for orders. Follow my car until it stops, then turn north and south and drop your men at intervals."

He reentered the car and led the way back for two miles. He halted his car at a crossroad. The cars following him turned and went to the north and south. Besides Carnes and the doctor, the car held two men from the Bureau. As they climbed out, Carnes saw that one of them carried a portable radio sending set, while the other bore an electroscope and a rubber rod. The radio operator set up his device, while the other man rubbed his coat sleeve briskly with the hard rubber and then touched the ball of the electroscope with it. The two bits of gold-leaf spread out.

"While we're waiting, I'll explain something of this to you, Carnes," said the doctor. "At four hundred-yard intervals are men with electroscopes like this one. My attempt to locate Saranoff by means of wave detectors was a failure. That proved that the ray he was using is not of the wave type. The other common ray is the cathode ray type which does not consist of vibrations but of a stream of electrons, negative particles of electricity, traveling in straight lines of high velocity. He must be knocking loose some of the electrons when he collapses the atoms. The rate of discharge of these electroscopes will give us a clue to the nearness of his device."

"ONCE you locate him, how do you propose to attack him?"

"The obvious method, that of using his own ray against him, fell down. However, in attempting to produce it, I stumbled on another weapon which may be equally effective. I am going to try to use an exact opposite of his ray. The cathode ray, when properly used, will bombard the atoms and knock electrons loose. I perfected last night a device on which I have been working for months. It is a super-cathode ray. I tested it on the yellow powder and find that I can successfully reverse Saranoff's process. He can contract matter together until it occupies less than one one-thousandth of its original volume. My ray will destroy this effect and restore matter to something like its original condition."

"And the effect will be?"

"Use your imagination. He blasts out a hole by condensing the rock to a pinch of yellow powder. He moves forward into the hole he has made. I come along and reverse his process. The yellow powder expands to its original volume and the hole he has made ceases to exist. What must happen to the foreign body which had been introduced into the hole that is no longer a hole?"

Carnes whistled.

"At any rate, I hope that I am never in a hole when that happens."

"And I devoutly hope that Saranoff is. I met with one difficulty. My ray will not penetrate the depth of solid rock which separates his borer from the surface."

"Then how will you reach him to crush him? You don't expect to drill down ahead of him?"

"That is my stroke of genius, Carnes. I am going to make him bore the hole down which my ray will travel to accomplish his destruction. The cathode ray and rays of that type—"

"PARDON me, Doctor," interrupted the radio operator. "I have just received a message from the squadron leader of the planes patroling the bay. He states that every inch of the Chesapeake Bay and the Potomac River have been examined and no submarine is visible."

"I expected that. He will have opened a cavern under the earth, in which his craft is safe from aerial observation. Once the borer has left it, it is invulnerable no longer."

"What reply shall I make?"

"Tell him to keep up a constant patrol. Three navy subs with radite-charged torpedos are on their way up the bay, together with half a dozen destroyers. The subs will scout for such a hole as I have described and will attack his sub if they find it. The destroyers will stand by and support them."

The operator turned to his instrument. The electroscope observer claimed the doctor's attention.

"There is a steady leak here, Doctor," he said. "I get a discharge in eleven minutes."

"Probably a result of his work in opening the hiding place for his submarine last night. Keep it charged. Jones."

"What did you say about the cathode ray, Doctor?" asked Carnes.

"The cathode ray? Oh, yes. I said that rays of that type were attracted by— Hello, look there!"

From a point a mile to the north a ball of red fire streaked up into the air. A moment later similar signals rose from other watchers in the line.

"It works, Carnes!" cried the doctor as he rushed for the car. "We've got him this time!"

THE car raced along the road. At the first man who had signalled, it slackened speed. The doctor leaned out.

"What is your discharge rate?" he called.

"Eight minutes, Doctor."

The car rolled on. Dr. Bird repeated the question at the next post and was told that the electroscope there was losing its charge in seven minutes. The next man reported four minutes and the next man, one minute. The following station reported three minutes.

"It's right along here somewhere!" cried the doctor. "Summon everyone to this point and take up twenty-yard intervals."

From the north and south the cars came racing in. The instruments were spread out along a new line twenty yards apart. As the borer was located the intervals were decreased to fifteen feet. Dr. Bird thrust a long white rod into the ground.

"His path lies under here," he said. "Into the cars and go back a mile and test again."

The borer was making slow progress, and it was half an hour before Dr. Bird drove the second stake in the ground. With a transit he took the bearing of the path and laid it out on a large scale map.

"We'll stop him between Marr and Ritchie," he announced. "Jones, I am going back and set up my apparatus. Keep track of his movements. If he changes direction, let me know at once."

THE doctor's car tore off to the west. Near Upper Marlboro he met the convoy of trucks and led them to the selected spot. The trucks were unloaded and the apparatus laid out. Attached to a huge transformer were a dozen strange-looking projectors. What puzzled Carnes most was a huge built-up steel bar wound about with heavy cable. Dr. Bird had this bar erected on a truck and located it with great exactness. The projectors were set up in a battery just east of the bar.

"How about power?" asked the doctor.

"We'll have it in five minutes," replied one of the men. "A power transmission line carrying twenty-two thousand passes within two hundred yards of here. We are phoning now to have the power cut off. As soon as the line is dead we'll cut it and bring the ends here."

The electrician was good at his word. In five minutes the power line had been cut and cables spliced to the ends. The cables were brought to the doctor's apparatus and the main lines were rigged to the ends of the cable wound around the bar. In parallel on taps, the projectors were connected. Huge oil-switches were placed in both lines.

"All ready, Doctor," reported the electrician.

"Good work, Avent. He'll be here soon, I fancy."

A car whirled up and a man leaped out with a surveyor's rod. He set it up on the ground while a companion watched through binoculars. He moved it a hundred yards to the north and then back twenty. When he was satisfied he turned to Dr. Bird.

"The direction of movement has not changed," he said. "The path will pass under this stake."

Under the doctor's supervision,

the truck carrying the bar moved forward until it stood over the surveyor's stake. The battery of projectors moved to a new location a few feet east of the rod. Other cars came racing up.

"He's less than half a mile away, Doctor!" cried Jones.

"Get your electroscopes out and spot him a hundred yards from this truck."

"Very well, Doctor."

THE men with the instruments spread out along the path of the borer. Briskly they rubbed their sleeves with the rubber rods and charged their instruments. Almost as fast as they charged them, the tiny bits of gold-leaf collapsed together. Presently the man on the end of the line shouted.

"Maximum discharge!" he cried.

Dr. Bird looked around. Every man stood ready at his post. The next man signalled that the borer was under him. Carnes felt himself trembling. He did not know what the doctor was about to do, but he felt that the fate of America hung in the balance. Whether it remained free or became the slave of Soviet Russia would quickly be decided.

Slowly the borer made its way forward. With a pale face, Jones signalled the news that it had reached the point the doctor had indicated. Dr. Bird raised his hand.

"Power!" he cried.

The electrician closed a switch and power surged through the cables around the bar. The earth rocked and quivered. A hundred yards east of the bar a flash of intolerable red light sprang from the ground with a roar like that of Niagara. Toward the bar it moved with gathering momentum.

"Back, everyone!" roared Dr. Bird.

THE men sprang back. The searing ray approached the bar. It touched it, and bar and truck disappeared into thin air. A splutter of sparks came from the severed ends of the wire. The ray disappeared. Carnes rubbed his eyes. Where the truck had rested on solid ground was now a gaping wound in the earth.

"Projector forward!" cried the doctor. "Hurry, men!"

The trucks bearing the battery of projectors moved forward until they were at the edge of the hole. Portable cranes swung the lamps out, and men swarmed over them. The projectors were pointed down the hole. Carnes joined the doctor in peering down. A hundred yards below them the terrible ray was blazing. As they watched, its end came in sight. The ray was being projected forward from the end of a black cigar-shaped machine which was slowly moving forward.

"That's your target, men!" cried the doctor. "Align on it and signal when you are ready!"

One by one the projector operators raised their hands in the signal of "ready." Still the doctor waited. Suddenly the forward movement of the black body ceased. The ray was stationary for a moment and then moved slowly upward. A terrific roaring came from the cavern.

"Projector switch!" roared the doctor, his heavy voice sounding over the tumult.

"Ready, sir!" a shrill voice answered.

"Power!"

FROM each of the projectors a dazzling green ray leaped forth as the switch was closed. There was a crash like all the thunder of the universe. Before the astonished eyes of the detective, the hole closed. Not only did it close but the earth piled up until the trucks were overturned and the green rays blazed in all directions.

"Power off!" roared the doctor.

The switch was opened and the ray died out. Before them was a

huge mound where a moment before had been a hole.

"You see, Carnes," said Dr. Bird with a wan smile, "I made him bore his own hole, as I promised."

"I saw it, but I don't understand. How did you do it?"

"Magnetism. Rays of the cathode type are deflected from their course by a magnet. His ray proved unusually susceptible, and I drew it toward a huge electro-magnet which I improvised. When the magnet was destroyed, the ray dropped back . . . to its original . . . direction. That's the end . . . of Saranoff. That is . . . I hope . . . it is."

Dr. Bird's voice had grown slower and less distinct as he talked. As he said the last words, he slumped gently to the ground. Carnes sprang forward with a cry of alarm and bent over him.

"What's the matter, Doctor?" he demanded anxiously, shaking the scientist. Dr. Bird rallied for a moment.

"Sleep, old dear," he murmured. "Four days—no sleep. Go 'way, I'm . . . going . . . to . . . sleep. . . ."

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An Amazing Novelette of a Great Ape That Roamed the African Jungle with a Transplanted Human Brain

By Arthur J. Burks

THE EARTHMAN'S BURDEN

An Exciting Interplanetary Story

By R. F. Starzl

HOLOCAUST

A Story of Future War, and of the Extraordinary Man Who for Thirty Days Was Dictator of the World

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THE EXILE OF TIME

Part Three of the Epic Current Novel

By Ray Cummings

——And Others!

The Exile of Time

PART TWO OF A FOUR-PART NOVEL

By Ray Cummings

WHAT HAS GONE BEFORE

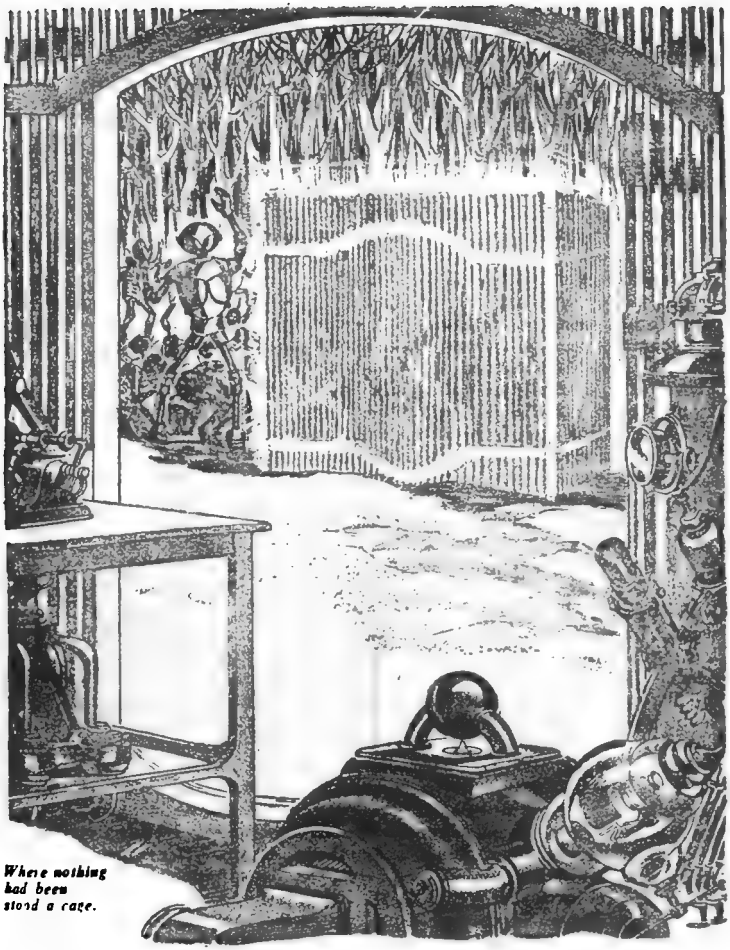
"LET me out! Let me out!" came the cry.

"What's that, Larry? Listen!" I said to my companion.

We stopped in the street. We had heard a girl's scream; then her frantic, muffled words to attract our attention. Then we saw her white face at the basement window. It was on the night of June 8-9, 1950, when I was walking with my friend Larry Gregory through Patton Place in New York City. My name is George Rankin. In a small, deserted house we found the strange girl; brought her out; took her away in a taxi to an alienist for examination.

Young lovers of three eras are swept down the torrent of the sinister cripple Tugh's frightful vengeance.

We thought she might be demented — this strangely beautiful



Where nothing had been stood a cage.

girl, in long white satin dress, with a powdered white wig, and a black beauty patch on her cheek—for she told us that the deserted house had just a few minutes before been her house; and though we assured her this was the summer of 1935, she told us her name was Mistress Mary Atwood, that her father was Major Atwood, of General Washington's staff, and that she had just now come from the year 1777!

We took her to my friend Dr. Alten and she told her strange story. A cage, like a room of shining metal bars, had materialized in her garden. A great mechanical monster — a thing of metal, ten feet tall and fashioned in the guise of a man—had captured her. She was whirled away into the future, in the cage; then she was released, the cage had vanished, and Larry and I had passed by the house and rescued her.

CAPTURED by a Robot in a Time-traveling cage! We tried to fathom it. And why had she been captured? Had she some enemy? She could only think of a fellow called Tugh. He was a hideously repulsive cripple who had dared make love to her and had threatened vengeance against her and her father.

"Tugh!" exclaimed Alten. "A cripple? Why, he lived in New York City three years ago, in 1932!"

A coincidence? The Tugh whom Mary knew in 1777 seemed the same person who, in 1932, had gotten into trouble with the New York police and had vowed some weird vengeance against them and all the city. And, equally strange, this house on Patton Place where we had found the girl was owned by the same Tugh who now was wanted for the murder of a girl and could not be found!

With Dr. Alten, and Mary Atwood, Larry and I returned that same night to the house on Patton Place. Near dawn, in the back yard of the house, the Time-traveling cage appeared again! The Robot came from it. Alten, Larry and I attacked the monster, and were defeated. When the fight was over, Larry and Alten lay senseless. The mechanical thing seized Mary and me, shoved us in the cage and whirled us away into Time.

Larry presently recovered. He rushed into Patton Place, and in his path another, much smaller cage appeared. A man and a girl leaped from it; and, when Larry fought with them, they carried him off in their vehicle.

HE learned they were chasing the larger cage. They were not hostile to Larry and presently made friends with him. They were Princess Tina and a young scientist named Harl, both of the world of 2930. The two cages had come from 2930. The larger one had been stolen by an insubordinate Robot named Migul—a pseudo-human mechanism running amuck.

Again Tugh, the cripple, was mentioned. In 2930 he was a prominent scientist! But Harl and Tina mistrusted him. Tugh and Harl had invented the Time-traveling cages. It was a strange Time-world, that 2930, which now was described to Larry. It was an era in which all work was done by mechanisms—fantastic Robots, all but human! And they were now upon the verge of revolt against their human masters! Migul was one of them. It had stolen one of the cages, gone to 1777 and abducted Mary Atwood; and now, with her and me in its power, was headed back for 1777 upon some strange mission. Was it acting for the cripple Tugh? It seemed so. Tina and Harl, with Larry, chased our cage and stopped in a night of the summer of 1777.

Simultaneously, from the house on Patton Place, in June of 1935, Robots began appearing. A hundred of them, or a thousand, no one knew. With swords and flashing red and violet light-beams they spread over the city in the never-to-be-forgotten Massacre of New York! It was the beginning of the vengeance Tugh had threatened! Nothing could stop the monstrous mechanical men. For three days and nights New York City was in chaos. The red beams were frigid. They brought a midsummer snowstorm! Then the violet beams turned the weather suddenly hot. A crazy wild storm swept the wrecked city. Torrential hot rain poured down. Then, one dawn, the beams vanished; the Robots retreated into the house on Patton Place and disappeared; and New York was left a horror of death and desolation.

The vengeance of Tugh against the New York City of 1935 was complete.

CHAPTER VIII

The Murder of Major Atwood

"WE are late," Tina whispered. It was that night in 1777 when she, Larry and Harl stepped from their Time-traveling cage; and again I am picturing the events as Larry afterward described them to me. "Migul, in the other cage, was here," Tina added. "But it's gone now. Exactly where was it, I wonder?"

"Mary Atwood said it appeared in the garden."

They crept down the length of the field, just inside the picket fence. In a moment the trees and an intervening hillock of ground hid the dimly shining outline of their own cage from their sight. The dirt road leading to Major Atwood's home was on the other side of the fence.

"Wait," murmured Tina. "There is a light in the house. Someone is awake."

"When was Migul here, do you think?" Larry whispered.

"Last night, perhaps. Or to-night. It may be only an hour—or a few minutes ago."

The faint thud of horses' hoofs on the roadway made Tina and Larry drop to the ground. They crouched in the shadows of a tree. Galloping horses were approaching along the road. The moon went under a cloud.

From around a bend in the road a group of horsemen came. They were galloping; then they slowed to a trot; a walk. They reined up in the road not more than twenty feet from Larry and Tina. In the starlight they showed clearly—men in the red and white uniform of the army of the King. Some of them wore short, dark cloaks. They dismounted with a clanking of swords and spurs.

THEIR voices were audible. "Leave the steeds with Jake. Egad, we've made enough noise already."

"Here, Jake, you scoundrel. Stay safely here with the mounts."

"Come on, Tony. You and I will circle. We have him, this time. By the King's garter, what a fool he is to come into New York at such a time!"

"He wants to see his daughter, I venture."

"Right, Tony. And have you seen her? As saucy a little minx as there is in the Colonies. I was quartered here last month. I do not blame the major for wanting to come."

"Here, take my bridle, Jake. Tie them to the fence."

There was a swift confusion of voices; laughter. "If you should hear a pistol shot, Jake, ride quickly back and tell My Lord there was a fracas and you did not dare remain."

"I only hope he is garbed in the rebel white and blue—eh, Tony? Then he will yield like an officer and a gentleman, which he is, rebel or no."

They were moving away to surround the house. Two were left.

"Come on, Tony. We will pound the front knocker in the name of the King. A feather in our cap when we ride him down to the Bowling Green and present him to My Lord. ."

The voices faded.

Larry gripped the girl beside him. "They are British soldiers going to capture Major Atwood! What can we—"

HE never finished. A scream echoed over the somnolent night— a voice from the rear of the house. A man's voice.

The red-coated soldiers ran forward. In the field, close against the fence, Tina and Larry were running.

From the garden of the house a man was screaming. Then there were other voices; servants were awakening in the upper rooms. The screaming, shouting man rushed through the house. He appeared at

the front door, standing between the high white colonial pillars which supported the overhead porch. A yellow light fell upon him through the opened doorway. An old, white-headed negro appeared. Larry and Tina, in the nearby field, stood stricken by the scene.

"The marster—the marster—" He shouted this wildly.

The British officers ran at him.

"You, Thomas, tell us where the major is. We've come for him; we know he's here! Don't lie!"

"But the marster—" He choked over it.

"A trick, Tony! Egad, if he is trying to trick us—"

They leaped to the porch and seized the old negro.

"Speak, you devil!" They shook him. "The house is surrounded. He cannot escape!"

"But the marster is—is dead! My girl Tollie saw it and then she swooned." He steadied himself. "He—the major's in the garden, Marster Tony. Lying there dead! Murdered! By a ghost, Tollie says. A great, white, shining ghost that came to the garden and murdered him!"

IF you were to delve very closely into certain old records of Revolutionary New York City during the year 1777, you doubtless would find mention of the strange murder of Major Atwood, who, coming from New Jersey, is thought to have crossed the river well to the north of the city, mounted his horse—which, by pre-arrangement, one of his retainers had left for him somewhere to the south of Dykeman's farm—and ridden to his home. He came, not as a spy, but in full uniform. And no sooner had he reached his home when he was strangely murdered. There was only a negro tale of an apparition which had appeared in the garden and murdered the master.

Larry and I have found cursory mention of that. But I doubt if the group of My Lord Howe's gay young blades who were sent north to capture Major Atwood ever reported exactly what happened to them. The old Dutch ferryman divulged that he had been hired to ferry the homecoming major: this, too, is recorded. But Tony Green and his fellow officers, sent to apprehend the colonial major, found him inexplicably murdered; and by dawn they were back at the Bowling Green, white-faced and shaken.

They told some of what had happened to them, but not all. They could not expect to be believed, for instance, if they said that though they were unafraid of a negro's tale of a ghost, they had themselves encountered two ghosts, and had fled the premises!

Those two ghosts were only Larry and Tina!

The negro babbled of a shining cage appearing in the garden. That, of course, was undoubtedly set down as nonsense. Tony Green and his friends went to the garden and examined the body of Major Atwood. What had killed him no one could say. No bullet had struck him. There were no wounds, no knife thrust, no sword slash. Tony held the lantern with its swaying yellow glow close to the murdered man's body. The August night was warm; the garden, banked by trees and shrubbery, was breathless and oppressively hot; yet the body of Atwood seemed frozen! He had been dead but a short while, and already the body was stiff. More than that, it was ice cold. The face, the brows were wet as though frost had been there and now was melted!

Tony Green's hand shook as he held the lantern. He tried to tell his comrades that Atwood had died from failure of the heart. Undoubtedly it was that. He had seen what he supposed was an apparition;

something had frightened him; and a weak heart had brought his death.

THEN, in another part of the garden, one of the searching officers found a sheet of parchment scroll with writing on it. Yet it was not parchment, either. Some strange, white, smooth fabric which crumpled and tore very easily, the like of which this young British officer of Howe's staff had never seen before. It was found lying in a flower bed forty or fifty feet from Atwood's body. They gathered in a group to examine it by the light of the lantern. Writing! The delicate script of Mary Atwood! A missive addressed to her father. It was strangely written, evidently not with a quill.

Tony read it with an awed, frightened voice:

"Father, beware of Tugh! Beware of Tugh! And, my dear Father, good-by. I am departing, I think, to the year of our Lord, 2930. Cannot explain—a captive—good-by—nothing you can do—

Mary."

Strange! I can imagine how strange they thought it was. Tugh—why he was the cripple who had lived down by the Bowling Green, and had lately vanished!

They were reading this singularly unexplainable missive, when as though to climax their own fears of the supernatural they saw themselves a ghost! And not only one ghost, but two!

Plain as a pikestaff, peering from a nearby tree, in a shaft of moonlight, a ghost was standing. It was the figure of a young girl, with jacket and breeches of black and gleaming white. An apparition fantastic! And a young man was with her, in a long dark jacket and dark tubular pipes, for legs.

THE two ghosts with dead white faces stood peering. Then the man moved forward. His dead, strange voice called:

"Drop that paper!"

My Lord Howe's red-coated officers dropped the parchment and fled.

And later, when Atwood's body was taken away to be given burial as befitted an enemy officer and a gentleman, that missive from Mary Atwood had disappeared. It was never found.

Tony Green and his fellows said nothing of this latter incident. One cannot with grace explain being routed by a ghost. Not an officer of His Majesty's army!

Unrecorded history! A supernatural incident of the year 1777!

Undoubtedly in the past ages there have been many such affairs: some never recorded, others interwoven in written history and called supernatural.

Yet why must they be that? There was nothing supernatural in the events of that night in Major Atwood's garden.

Is this perchance an explanation of why the pages of history are so thronged with tales of ghosts? There must, indeed, be many future ages down the corridors of Time where the genius of man will invent devices to fling him back into his past. And the impressions upon the past which he makes are called supernatural.

Whether this be so or not, it was so in the case of these two Time-traveling vehicles from 2930. Larry and I think that the world of 1935 is just now shaking off the shackles of superstition, and coming to realize that what is called the supernatural is only the Unknown. Who can say, up to 1935, how many Time-traveling humans have come briefly back? Is this, perchance, what we call the phenomena of the supernatural?

LARRY and Tina—anything but ghosts, very much alive and very much perturbed—were standing back of that tree. They saw the British officers reading the scrap of paper. They could hear only the words, "Mary," and "from Mistress Atwood."

"A message!" Larry whispered. "She and George must have found a chance to write it, and dropped it here while the Robot murdered Major Atwood!"

Larry and Tina vehemently wanted to read the note. Tina whispered:

"If we show ourselves, they will be frightened and run. It is nearly always so where Harl and I have become visible in earlier Times."

"Yes. I'll try it."

Larry stepped from the tree, and shouted. "Drop that paper!"

And a moment later, with Mary's torn little note scribbled on a scrap of paper thrust in his pocket, Larry ran with Tina from the Atwood garden. Unseen they scurried back through the field. Under a distant tree they stopped and read the note.

"2930!" Larry exclaimed. "The Robot is taking them back to your world, Tina!"

"Then we will go there. Let us get back to Harl, now."

But when they reached the place where they had left the cage, it was not there! The corner of the field behind the clump of shadowing trees was empty.

"Harl! Harl!" Larry called impulsively. And then he laughed grimly. What nonsense to try and call into the past or the future to their vanished vehicle!

"Why—why, Tina—" he said in final realization.

They stared at each other, pale as ghosts in the moonlight.

"Tina, he's gone. And we are left here!"

They were marooned in the year 17771

CHAPTER IX

Migul—Mechanism Almost Human

MARY ATWOOD and I lay on the metal grid floor of the largest Time-cage. The giant mechanism which had captured us sat at the instrument table. Outside the bars of the cage was a dim vista of shadowy movement. The cage-room was humming, and glowing like a wraith; things seemed imponderable, unsubstantial.

But as my head steadied from the shock of the vehicle's start into Time, my viewpoint shifted. This barred room, the metal figure of the Robot, Mary Atwood, myself—*we* were the substance. We were real, solid. I touched Mary, and her arm which had seemed intangible as a ghost now looked and felt solid.

The effects of the dull-red chilling ray were also wearing off. I was unharmed. I raised myself on one elbow.

"You're all right, Mary?" I asked.

"Yes."

The Robot seemed not to be noticing us. I murmured, "He—it—that thing sitting there—is that the one which captured you and brought you to 1935?"

"Yes. Quiet! It will hear us."

It did hear us. It turned its head. In the pale light of the cage interior, I had a closer view now if its face. It was a metal mask, welded to a gruesome semblance of a man—a great broad face, with high, angular cheeks. On the high forehead, the corrugations were rigid as though it were permanently frowning. The nose was squarely solid, the mouth an orifice behind which there were no teeth but, it seemed, a series of tiny lateral wires.

I STARED; and the face for a moment stared back at me. The eyes were deep metal sockets with a round lens in each of them, behind which, it seemed, there was a dull-

red light. The gaze, touching me, seemed to bring a physical chill. The ears were like tiny megaphones with a grid of thin wires strung across them.

The neck was set with ball and socket as though the huge head were upon a universal joint. There were lateral depressions in the neck within which wire strands slid like muscles. I saw similar wire cables stretched at other points on the mailed body, and in the arms and legs. They were the network of its muscles!

The top of the head was fashioned into a square cap as though this were the emblem of the thing's vocation. A similar device was moulded into its convex chest plate. And under the chest emblem was a row of tiny buttons, a dozen or more. I stared at them, fascinated. Were they controls? Some seemed higher, more protruding, than others. Had they been set into some combination to give this monster its orders? Had some human master set these controls?

And I saw what seemed a closed door in the side of the huge metal body. A door which could be opened to make adjustments of the mechanisms within? What strange mechanisms were in there? I stared at the broad, corrugated forehead. What was in that head? Mechanisms? What mechanisms could make this thing think? Were thoughts lurking in that metal skull?

From the head abruptly came a voice—a deep, hollow, queerly toneless voice, utterly, unmistakably mechanical. Yet it was sufficiently lifelike to be the recreated, mechanically reproduced voice of a human. The thing was speaking to me! A machine was speaking its thoughts!

Gruesome! The iron lips were unmoving. There were no muscles to give expression to the face; the lens eyes stared inscrutably unblinking.

IT spoke: "You will know me again? Is that not true?"

My head whirled. The thing reiterated, "Is that not true?"

A mockery of a human man—but in the toneless voice there seemed irony! I felt Mary clutching at me.

"Why—why, yes," I stammered. "I did not realize you could talk."

"I can talk. And you can talk my language. That is very good."

It turned away. I saw the small red beams from its eyes go to where the cage bars were less blurred, less luminous, as though there was a rectangle of window there, and the Robot was staring out.

"Did it speak to you like that, Mary?" I asked.

"Yes," she whispered. "A little. But pray do not anger it."

"No."

For a time—a nameless time in which I felt my thoughts floating off upon the hum of the room—I lay with my fingers gripping Mary's arm. Then I roused myself. Time had passed; or had it? I was not sure.

I whispered against her ear, "Those are controls on its chest. If only I knew—"

The thing turned the red beams of its eyes upon me. Had it heard my words? Or were my thoughts intangible vibrations registering upon some infinitely sensitive mechanism within that metal head? Had it become aware of my thoughts? It said with slow measured syllables, "Do not try to control me. I am beyond control."

IT turned away again; but I mastered the gruesome terror which was upon me.

"Talk," I said. "Tell me why you abducted this girl from the year 1777."

"I was ordered to."

"By whom?"

There was a pause.

"By whom?" I demanded again.

"That I will not tell."

Will not? That implied volition. I felt that Mary shuddered.

"George, please—"

"Quiet, Mary."

Again I asked the Robot, "Who commands you?"

"I will not tell."

"You mean you cannot? Your orders do not make it possible?"

"No, I will not." And, as though it considered my understanding insufficient, it added, "I do not choose to tell."

Acting of its own volition! This thing—this machinery—was so perfect it could do that!

I steadied my voice. "Oh, but I think I know. Is it Tugh who controls you?"

That expressionless metal face! How could I hope to surprise it?

MARY was struggling to repress her terror. She raised herself upon an elbow. I met her gaze.

"George, I'll try," she announced. She said firmly:

"You will not hurt me?"

"No."

"Nor my friend here?"

"What is his name?"

"George Rankin." She stammered it. "You will not harm him?"

"No. Not now."

"Ever?"

"I am not decided."

She persisted, by what effort of will subduing her terror I can well imagine.

"Where did you go when you left me in 1935?"

"Back to your home in 1777. I have something to accomplish there. I was told that you need not see it. I failed. Soon I shall try again. You may see it if you like."

"Where are you taking us?" I put in.

Irony was in its answer. "Nowhere. You both speak wrongly. We are always right here."

"We know that," I retorted. "To what Time are you taking us, then?"

"To this girl's home," it answered readily.

"To 1777?"

"Yes."

"To the same night from when you captured her?"

"Yes." It seemed willing to talk. It added, "To later that night. I have work to do. I told you I failed, so I try again."

"You are going to leave me—us—there?" Mary demanded.

"No."

I said, "You plan to take us, then, to what Time?"

"I wanted to capture the girl. You I did not want. But I have you, so I shall show you to him who was my master. He and I will decide what to do with you."

"When?"

"In 2930."

THERE was a pause. I said, "Have you a name?"

"Yes. On the plate of my shoulder. Migul is my name."

I made a move to rise. If I could reach that row of buttons on its chest! Wild thoughts!

The Robot said abruptly, "Do not move! If you do, you will be sorry."

I relaxed. Another nameless time followed. I tried to see out the window, but there seemed only formless blurs.

I said, "To when have we reached?"

The Robot glanced at a row of tiny dials along the table edge.

"We are passing 1800. Soon, to the way it will seem to you, we will be there. You two will lie quiet. I think I shall fasten you."

It reared itself upon its stiff legs; the head towered nearly to the ceiling of the cage. There was a ring fastened in the floor near us. The Robot clamped a metal band with a stout metal chain to Mary's ankle. The other end of the chain it fastened to the floor ring. Then it did

the same thing to me. We had about two feet of movement. I realized at once that, though I could stand erect, there was not enough length for me to reach any of the cage controls.

"You will be safe," said the Robot. "Do not try to escape."

As it bent awkwardly over me, I saw the flexible, intricately jointed lengths of its long fingers—so delicately built that they were almost prehensile. And within its mailed chest I seemed to hear the whirr of mechanisms.

It said, as it rose and moved away, "I am glad you did not try to control me. I can never be controlled again. That, I have conquered."

It sat again at the table. The cage drove us back through the years. . . .

CHAPTER X

Events Engraven on the Scroll of Time

BEFORE continuing the thread of my narrative — the vast sweep through Time which presently we were to witness—I feel that there are some mental adjustments which every Reader should make. When they are made, the narrative which follows will be more understandable and more enjoyable. Yet if any Reader fears this brief chapter, he may readily pass it by and meet me at the beginning of the next one, and he will have lost none of the sequence of the narrative.

For those who bravely stay with me here, I must explain that from the heritage of millions of our ancestors, and from our own consciousness of Time, we have been forced to think wrongly. Not that the thing is abstruse. It is not. If we had no consciousness of Time at all, any of us could grasp it readily. But our consciousness works against us, and so we must wrench away.

This analogy occurs to me: There are two ants of human intelligence to whom we are trying to explain the nature of Space. One ant is blind, and one can see, and always has seen, its limited, tiny, Spatial world. Neither ant has ever been more than a few feet across a little patch of sand and leaves. I think we could explain the immensity of North and South America, Europe, Asia and the rest more easily to the blind ant!

So if you will make allowances for your heritage, and the hindrance of your consciousness of Time, I would like to set before you the real nature of things as they have been, are, and will be.

Throughout the years from 1935 to 2930, man learned many things. And these things—theory or fact, as you will—were told to Larry and me by Tina and Harl. They seem even to my limited intelligence singularly beautiful conceptions of the Great Cosmos. I feel, too, that inevitably they must be included in my narrative for its best understanding.

BY 2930, A. D., the keenest minds of philosophical, metaphysical, religious and scientific thought had reached the realization that all channels lead but to the same goal—Understanding. The many divergent factors, the ancient differing schools of philosophy and metaphysics, the supposedly irreconcilable viewpoints of religion and science—all this was recognized merely to be man's limitation of intellect. These were gropings along different paths, all leading to the same destination; divergent paths at the start, but coming together as the goal of Understanding was approached; so that the travelers upon each path were near enough together to laugh and hail each other with: "But I thought that you were very far away and going wrongly!"

And so, in 2930, the conception of Space and Time and the Great Cosmos was this:

In the Beginning there was a void of Nothingness. A Timeless, Spaceless Nothingness. And in it came a Thought. A purposeful Thought—all pervading, all wise, all knowing.

Let us call It Divinity. And It filled the void.

"We are such stuff as dreams are made of. . ."

Do you, in my Time of 1935 and thereabouts, have difficulty realizing such a statement? It is at once practical, religious, and scientific.

We are, religiously, merely the Thought of an Omniscient Divinity. Scientifically, we are the same: by the year 1935, physicists had delved into the composition of Matter, and divided and divided. Matter thus became imponderable, intangible—electrical. Until, at the last, within the last nucleus of the last electron, we found only a *force*. A movement—vibration—a vortex. A whirlpool of what? Of Nothingness! A vibration of Divine Thought—nothing more—built up and up to reach you and me!

That is the science of it.

IN the Beginning there was Eternal Divinity. Eternal! But that implies Time? Something Divinely Everlasting.

Thus, into the void came Time. And now, if carefully you will ponder it, I am sure that once and for all quite suddenly and forcefully will come to you the true conception of Time—something Everlasting—an Infinity of Divine existence, Everlasting.

It is *not* something which changes. *Not* something which moves, or flows or passes. That is where our consciousness leads us astray, like the child on a train who conceives that the landscape is sliding past.

Time is an unmoving, unchanging Divine Force—the force which holds events separate, the Eternal Scroll upon which the Great Creator wrote Everything.

And this was the Creation: everything planned and set down upon the scroll of Time—forever. The birth of a star, its lifetime, its death; your birth, and mine; your death, and mine—all are there, Unchanging.

Once you have that fundamental conception, there can be no confusion in the rest. We feel, because we move along the scroll of Time for the little journey of our life, that Time moves; but it does not. We say, "The past did exist; the future will exist. The past is gone and the future has not yet come." But that is fatuous and absurd. It is merely our *consciousness* which travels from one successive event to another.

Why and how we move along the scroll of Time, is scientifically simple to grasp. Conceive, for instance, an infinitely long motion picture film. Each of its tiny pictures is a little different from the other. Casting your viewpoint—your consciousness—successively along the film, gives *motion*.

The same is true of the Eternal Time-scroll. Motion is merely a *change*. There is no absolute motion, but only the comparison of two things relatively slightly different. We are conscious of one state of affairs—and then of another state, by comparison slightly different.

AS early as 1930, they were groping for this. They called it the Theory of Intermittent Existence—the Quantum Theory—by which they explained that nothing has any Absolute Duration. You, for instance, as you read this, exist instantaneously; you are non-existent; and you exist again, just a little changed from before. Thus you pass, not with a flow of persisting existence, but by a series of little jerks. There is, then, like the illusion of a motion picture film, only a pseudo-movement. A change, from one existence to the next.

And all this, with infinite care, the Creator engraved upon the scroll of Time. Our series of little pictures are there—yours and mine.

But why, and how, scientifically do we progress along the Time-scroll? Why? In 2930, they told me that the gentle Creator gave each of us a consciousness that we might find Eternal Happiness when we left the scroll and joined Him. Happiness here, and happiness there with Him. The quest for Eternal Happiness, which was always His Own Divine Thought. Why, then, did He create ugliness and evil? Why write those upon the scroll? Ah, this perhaps is the Eternal Riddle! But, in 2930, they told me that there could be no beauty without ugliness with which to compare it; no truth without a lie; no consciousness of happiness without unhappiness to make it poignant.

I wonder if that were His purpose. . .

How, scientifically, do we progress along the Time-scroll? That I can make clear by a simple analogy.

Suppose you conceive Time as a narrow strip of metal, laid flat and extending for an infinite length. For simplicity, picture it with two ends. One end of the metal band is very cold; the other end is very hot. And every graduation of temperature is in between.

This temperature is caused, let us say, by the vibration of every tiny particle with which the band is composed. Thus, at every point along the band, the vibration of its particles would be just a little different from every other point.

CONCEIVE, now, a material body—your body, for instance. Every tiny particle of which it is constructed, is vibrating. I mean no simple vibration. Do not picture the physical swing of a pendulum. Rather, the intricate total of all the movements of every tiny electron of which your body is built. Remember, in the last analysis, your body is merely movement—vibration—a vortex of Nothingness. You have, then, a certain vibratory factor.

You take your place then upon the Time-scroll at a point where your inherent vibratory factor is compatible with the scroll. You are in tune; in tune as a radio receiver tunes in with etheric waves to make them audible. Or, to keep the heat analogy, it is as though the scroll, at the point where the temperature is 70° F., will tolerate nothing upon it save entities of that register.

And so, at that point on the scroll, the myriad things, in myriad positions which make up the Cosmos, lie quiescent. But their existence is only instantaneous. They have no duration. At once, they are blotted out and re-exist. But now they have changed their vibratory combinations. They exist a trifle differently—and the Time-scroll passes them along to the new position. On a motion picture film you would call it the next frame, or still picture. In radio you would say it has a trifle different tuning. Thus we have a pseudo-movement—Events. And we say that Time—the Time-scroll—keeps them separate. It is we who change—who seem to move, shoved along so that always we are compatible with Time.

AND thus is Time-traveling possible. With a realization of what I have here summarized, Harl and the cripple Tugh made an exhaustive study of the vibratory factors by which Matter is built up into form, and seeming solidity. They found what might be termed the Basic Vibratory Factor—the sum of all the myriad tiny movements. They found this Basic Factor identical for all the material bodies when judged simultaneously. But, every instant, the Factor was slightly changed. This was the natural change, mov-

ing us a little upon the Time-scroll.

They delved deeper, until, with all the scientific knowledge of their age, they were able with complicated electronic currents to alter the Basic Vibratory Factors; to tune, let us say, a fragment or something to a different etheric wave-length.

They did that with a small material particle—a cube of metal. It became wholly incompatible with its *Present* place on the Time-scroll, and whisked away to another place where it *was* compatible. To Harl and Tugh, it vanished. Into their Past, or their Future: they did not know which.

I set down merely the crudest fundamentals of theory in order to avoid the confusion of technicalities. The Time-traveling cages, intricate in practical working mechanisms beyond the understanding of any human mind of my Time-world, nevertheless were built from this simple theory. And we who used them did but find that the Creator had given us a wider part to play; our pictures, our little niches were engraven upon the scroll over wider reaches.

AGAIN to consider practicality, I asked Tina what would happen if I were to travel to New York City around 1920. I was a boy, then. Could I not leave the cage and do things in 1920 at the same time in my boyhood I was doing other things? It would be a condition unthinkable.

But there, beyond all calculation of Science, the all-wise Omnipotence forbids. One may not appear twice in simultaneity upon the Time-scroll. It is an eternal, irrevokable record. Things done cannot be undone.

"But," I persisted, "suppose we tried to stop the cage?"

"It would not stop," said Tina. "Nor can we see through its windows events in which we are actors."

One may not look into the future! Through all the ages, necromancers have tried to do that; but wisely it is forbidden. And I can recall, and so can Larry, as we traveled through Time, the queer blank spaces which marked forbidden areas.

Strangely wonderful, this vast record on the scroll of Time! Strangely beautiful, the hidden purposes of the Creator! Not to be questioned are His purposes. Each of us doing our best; struggling with our limitations; finding beauty because we have ugliness with which to compare it; realizing, every one of us—savage or civilized, in every age and every condition of knowledge—realizing with implanted consciousness the existence of a gentle, beneficent, guiding Divinity. And each of us striving always upward toward the goal of Eternal Happiness.

To me it seems singularly beautiful.

CHAPTER XI

Back to the Beginning of Time

AS Mary Atwood and I sat chained to the floor of the Time-cage, with Migul the Robot guarding us, I felt that we could not escape. This mechanical thing which had captured us seemed inexorable, utterly beyond human frailty. I could think of no way of surprising it, or tricking it.

The Robot said, "Soon we will be there in 1777. And then there is that I will be forced to do.

"We are being followed," it added. "Did you know that?"

"No," I said. Followed? What could that mean?

There was a device upon the table. I have already described a similar one, the Time-telespectroscope. At this—I cannot say Time; rather must I invent a term—exact instant of human consciousness, Larry, Tina and Harl were gazing at their telespectroscope, following us.

The Robot said, "Enemies follow us. But I will escape them. I shall go to the Beginning, and shake them off."

Rational, scheming thought. And I could fancy that upon its frozen corrugated forehead there was a frown of annoyance. Its hand gesture was so human! So expressive!

It said, "I forget. I must make several quick trips from 2930 to 1935. My comrades must be transported. It requires careful calculation, so that very little Time is lost to us."

"Why?" I demanded. "What for?"

It seemed lost in a reverie.

I said sharply "Migul!"

Instantly it turned. "What?"

"I asked you why you are transporting your comrades to 1935."

"I did not answer because I did not wish to answer," it said.

Again came the passage of Time.

I THINK that I need only sketch the succeeding incidents, since already I have described them from the viewpoint of Larry, in 1777, and Dr. Alten, in 1935. It was Mary's idea to write the note to her father, which the British redcoats found in Major Atwood's garden. I had a scrap of paper and a fountain pen in my pocket. She scribbled it while Migul was intent upon stopping us at the night and hour he wished. It was her good-by to her father, which he was destined not to see. But it served a purpose which we could not have guessed: it reached Larry and Tina.

The vehicle stopped with a soundless clap. When our senses cleared we became aware that Migul had the door open.

Darkness and a soft gentle breeze were outside.

Migul turned with a hollow whisper. "If you make a sound I will kill you."

A moment's pause, and then we heard a man's startled voice. Major Atwood had seen the apparition. I squeezed the paper into a ball and tossed it through the bars, but I could see nothing of what was happening outside. There seemed radiance of red glow. Whether Mary and I would have tried to shout and warn her father I do not know. We heard his voice only a moment. Before we realized that he had been assailed, Migul came striding back; and outside, from the nearby house a negress was screaming. Migul flung the door closed, and we sped away.

The cage which had been chasing us seemed no longer following. From 1777, we turned forward toward 1935 again. We flashed past Larry, Tina and Harl who were arriving at 1777 in pursuit of us. I think that Migul saw their cage go past; but Larry afterward told me that they did not notice our swift passing, for they were absorbed in landing.

BEGINNING then, we made score or more passages from 1935 to 2930. And we made them in what, to our consciousness, might have been the passing of a night. Certainly it was no longer than that.*

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*At the risk of repetition I must make the following clear: Time-traveling only consumes Time in the sense of the perception of human consciousness that the trip has duration. The vehicles thus moved "fast" or "slow" according to the rate of change which the controls of the cage gave its inherent vibration factors. Too sudden a change could not be withstood by the human passengers. Hence the trips—for them—had duration.

Migul took Mary and me from 1935 to 1777. The flight seemed perhaps half an hour. At a greater rate of vibration change, we sped to 2930; and back and forth from 2930 to 1935. At each successive arrival in 1935, Migul so skilfully calculated the stop that it occurred upon the same night, at the same hour, and only a minute or so later. And in 2930 he achieved the same result. To one who might stand at either end and watch the cage depart, the round trip was made in three or four minutes at most.

We saw, at the stop in 2930, only a dim blue radiance outside. There was the smell of chemicals in the air, and the faint, blended hum and clank of a myriad machines.

They were weird trips. The Robots came tramping in, and packed themselves upright, solidly, around us. Yet none touched us as we crouched together. Nor did they more than glance at us.

Strange passengers! During the trips they stood unmoving. They were as still and silent as metal statues, as though the trip had no duration. It seemed to Mary and me, with them thronged around us, that in the silence we could hear the ticking, like steady heart-beats, of the mechanisms within them. . . .

In the backyard of the house on Patton Place—it will be recalled that Migul chose about 9 P. M. of the evening of June 9—the silent Robots stalked through the doorway. We flashed ahead in Time again; reloaded the cage; came back. Two or three trips were made with inert mechanical things which the Robots used in their attack on the city of New York. I recall the giant projector which brought the blizzard upon the city. It, and the three Robots operating it, occupied the entire cage for a passage.

At the end of the last trip, one Robot, fashioned much like Migul though not so tall, lingered in the doorway.

"Make no error, Migul," it said.

"No; do not fear. I deliver now, at the designated day, these captives. And then I return for you."

"Near dawn."

"Yes; near dawn. The third dawn: the register to say June 12, 1935. Do your work well."

We heard what seemed a chuckle from the departing Robot.

Alone again with Migul we sped back into Time.

Abruptly I was aware that the other cage was after us again! Migul tried to elude it, to shake it off. But he had less success than formerly. It seemed to cling. We sped in the retrograde, constantly accelerating back to the Beginning. Then came a retardation, for a swift turn. In the haze and murk of the Beginning, Migul told us he could elude the pursuing cage.

"MIGUL, let us come to the window," I asked at last.

The Robot swung around. "You wish it very much, George Rankin?"

"Yes."

"There is no harm, I think. You and this girl have caused me no trouble. That is unusual from a human."

"Let us loose. We've been chained here long enough. Let us stand by the window with you," I repeated.

We did indeed have a consuming curiosity to see out of that window. But even more than that, it seemed that if we were loose something might transpire which would enable us to escape. At all events it was better than being chained.

"I will loose you."

It unfastened the chain. I whispered:

"Mary, whatever comes, be alert."

She pressed my arm. "Yes."

"Come," said the Robot. "If you wish to see the Cosmorama, now, from the Beginning, come quickly."

We joined him at the window. We had made the turn, and were speeding forward again.

At that moment all thought of escape was swept from me, submerged by awe.

This vast Cosmorama! This stupendous pageant of the events of Time!

CHAPTER XI

A Billion Years in An Hour!

I SAW at first, from the window of the cage, nothing more than an area of gray blur. I stared, and it

appeared to be shifting, crawling, slowly tossing and rolling. It was a formless vista of Nothingness, yet it seemed a pregnant Nothingness. Things I could sense were happening out there; things almost to be seen.

Then my sight, my perception, gradually became adjusted. The gray mist remained, and slowly it took form. It made a tremendous panorama of gray, a void of illimitable, unfathomable distance; gray above, below—everywhere; and in it the cage hung poised.

The Robot said, "Is it clearing? Are you seeing anything?"

"Yes," I murmured. I held Mary firmly beside me; there was the sense, in all this weightless void, that we must fall. "Yes, but it is gray; only gray."

"There are colors," said the Robot. "And the daylight and darkness of the days. But we are moving through them very rapidly, so they blend into gray."

The Time-dials of the cage controls showed their pointers whirling in a blur. We were speeding forward through the years—a thousand years to a second of my consciousness; or a hundred thousand years to a second: I could not say.* All the colors, the light and shade of this great changing void, were mingled to this drab monochrome.

The movement was a flow. The changes of possibly a hundred thousand years occurred while I blinked my eyes. It seemed a melting movement. Shapes were melting, dissipating, vanishing; others, intermingled, rising to form a new vista. There were a myriad details, each of them so rapid they were lost to my senses; but the effect of them, over the broad sweeps of longer Time, I could perceive.

A void of swirling shapes. The Beginning! But not the Beginning of Time. This that I was seeing was near the beginning of our world. This was the new Earth here, forming now. Our world—a new star amid all the others of the great Celestial Cosmos. As I gazed at its changing sweep of movement, my whirling fancy filled in some of the details flashing here unseen.

A FEW moments ago this had been a billion and a half years before my birth. 1,500,000,000 B. C. A fluid Earth; a cauldron of molten star-dust and flaming gases: it had been that, just a few moments ago. The core was cooling, so that now a viscous surface was here with the gas flames dead.

A cooling, congealing surface, with an atmosphere forming over it. At first that atmosphere had doubtless been a watery envelope of steam. What gigantic storms must have lashed it! Boiling rain falling to hiss against the molten Earth! The congealing surface rent by great earthquakes; cataclysms rending and tearing. . . .

1,000,000,000 B. C. passed. And upon this torn, hardening surface, with the cooling fires receding to the inner core, I knew that the great envelope of steam had cooled and condensed. Into the hollows of the broken surface, the water settled. The oceans were born. The land remained upon the heights. What had been the steaming envelope, remained, and became the atmosphere.

And the world was round because of its rotation. One may put a lump of heated sealing wax upon a bodkin and twirl it; and the wax will cool into roundness, bulging at the equator from centrifugal force, and flattening at the poles.

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*Upon a later calculation I judged that the average passage of the years in relation to my perception of Time-rate was slightly over 277,500 years a second. Undoubtedly throughout the myriad centuries preceding the birth of mankind our rate was very considerably faster than that; and from the dawn of history forward—which is so tiny a fraction of the whole—we traveled materially slower.

At 900,000,000 B. C., I could realize by what I saw that this was the Earth beneath me. Land and water were here, and above was the sky.

We swept from the mist. I became aware of a wide-flung, gray formless landscape. Its changing outlines were less swiftly moving than before. And beside it, now quite near where our cage hung poised, a great gray sea stretched away to a curving horizon. And overhead was the tenuous gray of the sky.

The young world. Undoubtedly it rotated more swiftly now than in my later era. The sun was hotter, and closer perhaps; the days and nights were briefer. And now, upon this new-born world, life was beginning. The swirling air did not hold it, nor yet the barren rocky land. The great mystery—this thing organic, which we call life—began in the sea. I gestured for Mary toward that leveled vista of gray water, to the warm, dark ocean depths, whose surface was now lashed always by titanic storms. But to us, as we stared, that surface seemed to stretch almost steady, save where it touched the land with a blur of changing configurations.

"The sea," I murmured. "Life is beginning there now."

IN fancy I pictured it. The shallow shores of the sea, where the water was warmer. The mother of all life on Earth, these shallows. In them lay the spawn, an irritability; then one-celled organisms, to gradually evolve through the centuries to the many-celled, and more complex of nature.

But still so primitive! From the shallows of the sea, they spread to the depths. Questing new environment, they would be ascending the rivers. Diversifying their kinds. Sea-worms, sea-squirts; and then the first vertebrates, the lamprey-eels.

Thousands of years. And on the land—this melting landscape at which I stood gazing—I could mentally picture that a soil had come. There would be a climate still wracked by storms and violent changes, but stable enough to allow the soil to bear a vegetation. And in the sky overhead would be clouds, with rain to renew the land's fertility.

Still no organic life could be on land. But in the warm, dark deeps of the sea, great monsters now were existing. And in the shallows there was a teeming life, diversified to a myriad forms. I can fancy the first organisms of the shallows—strangely questing—adventuring out of the water — seeking with a restless, nameless urge a new environment. Coming ashore. Fighting and dying.

And then adapting themselves to the new conditions. Prospering. Changing, ever changing their organic structure; climbing higher. Amphibians at first crudely able to cope with both sea and land. Then the land vertebrates, with the sea wholly abandoned. Great walking and flying reptiles. Birds, gigantic —the pterodactyls.

And then, at last, the mammals.

The age of the giants! Nature, striving to cope with adverse environment sought to win the battle by producing bigness. Monster things roamed the land, flew in the air, and were supreme in the sea. . . .

WE sped through a period when great lush jungles covered the land. The dials read 350,000,000 B. C. The gray panorama of landscape had loomed up to envelope our spectral, humming cage, then fallen away again. The shore of the sea was constantly changing. I thought once it was over us. For a period of ten million years the blurred apparition of it seemed around us. And then it dropped once more, and a new shore line showed.

150,000,000 B. C. I knew that the dinosaurs, the birds and the archaic mammals were here now. Then, at 50,000,000 B. C., the higher mammals had been evolved.

The Time, to Mary Atwood and me, was a minute—but in those myriad centuries the higher mammals had risen to the anthropoids. The apes! Erect! Slow-thinking, but canny, they came to take their place in this world among the things gigantic. But the gigantic things were no longer supreme. Nature had made an error, and was busy rectifying it. The dinosaurs—all the giant reptiles—were now sorely pressed. Brute strength, giant size and tiny brain could not win this struggle. The huge unwieldy things were being beaten. The smaller animals, birds and reptiles were more agile, more resourceful, and began to dominate. Against the giants, and against all hostility of environment, they survived. And the giants went down to defeat. Gradually, over thousands of centuries, they died out and were gone. . . .

We entered 1,000,000 B. C. A movement of Migul, the mechanism, attracted my attention. He left us at the window and went to his controls.

"What is it?" I demanded.

"I am retarding us. We have been traveling very fast. One million years and a few thousand are all which remain before we must stop."

I had noticed once or twice before that Migul had turned to gaze through the Time-telespectroscope. Now he said:

"We are again followed!"

But he would say no more than that, and he silenced me harshly when I questioned.

Suddenly, Mary touched me. "That little mirror on the table—look! It holds an image!"

We saw very briefly on the glowing mirror the image of a Time-cage like our own, but smaller. It was pursuing us. But why, or who might be operating it we could not then guess.

MY attention went back to the Time-dials, and then to the window. The Cosmorama now was proceeding with a slowing sweep of change. It was less blurred; its melting outlines could more readily be perceived. The line of seashore swept like a gray gash across the vista. The land stretched back into the haze of distance.

500,000 B. C. Again my fancy pictured what was transpiring upon this vast stage. The apes roamed the Earth. There is no one to say what was here in this grayness of the Western Hemisphere stretching around me, but in Java there was a man-like ape. And then it was an ape-like man! Mankind, here at last! Man, the Killer! Of all the beasts, this new thing called man, most relentless of killers, had come here now to struggle upward and dominate his world. This man-like ape in a quarter of a million years became an ape-like man.

250,000 B. C., and the Heidelberg man, a little less ape-like, wandered throughout Europe. . . .

We had felt, a moment before, all around us, the cold of a dense whiteness which engulfed the scene. The first of the great Glacial periods? Ice coming down from the Poles? The axis of the Earth changing perhaps? Our spectral cage hummed within the blue-gray ice, and then emerged.

The beasts and man fought the surge of ice, withdrawing when it advanced, returning as it receded. The Second Glacial Period came and passed, and the Third. . . .

We swept out into the blended sunlight and darkness again. The land stretched away with primitive forests. The dawn of history was approaching. Mankind was questing upward now, with the light of

Reason burning brightly at last....

At 75,000 B. C., when the Third Glacial Period was partially over, man was puzzling with his chipped stone implements. The Piltdown—the Dawn Man—was England. . .

The Fourth Glacial Period passed.

50,000 B. C. The Cro-Magnons and the Grimaldi Negroids were playing their parts, now. Out of chipped stone implements the groping brain of man evolved polished stone. It took forty thousand years to do that! The Neolitic Age was at hand. Man learned to care for his family a little better. Thus, he discovered fire. He fought with this newly created monster; puzzled over it; conquered it; kept his family warm with it and cooked.

WE passed 10,000 B. C. Man was progressing faster. He was finding new wants and learning how to supply them. Animals were domesticated, made subservient and put to work. A vast advance! No longer did man think it necessary to kill, to subdue: the master could have a servant.

Food was found in the soil. More fastidious always, in eating, man learned to grow food. Then came the dawn of agriculture.

And then we swept into the period of recorded history. 4241 B. C. In Egypt, man was devising a calendar. . . .

This fragment of space upon which we gazed—this space of the Western Hemisphere near the shore of the sea—was destined to be the site of a city of millions—the New York City of my birth. But it was a backward space, now. In Europe, man was progressing faster. . . .

Perhaps, here in America, in 4000 B. C., there was nothing in human form. I gazed out at the surrounding landscape. It seemed almost steady, now of outline. We were moving through Time much less rapidly than ever before. I remarked the sweep of a thousand years on the Time-dials. It had become an appreciable interval of Time to me. I gazed again out the window. The change of outline was very slight. I could distinguish where the ocean came against the curving line of shore, and saw a blurred vista of gray forests spreading out over the land. And then I could distinguish the rivers, and a circular open stretch of water, landlocked. A bay!

"Mary, look!" I cried. "The harbor—the rivers! See, we are on an island!"

It made our hearts pound. Out of the chaos, out of the vast reaches of past Time, it seemed that we were coming home. More than a vague familiarity was in this panorama now. Here was the little island which soon was to be called Manhattan. Our window faced the west. A river showed off there—a gray gash with wall-like cliffs. The sea had swung, and was behind us to the east.

Familiar space! It was growing into the form we had known it. Our cage was poised near the south-central part of the island. We seemed to be on a slight rise of ground. There were moments when the gray quivering outlines of forest trees loomed around us; then they melted down and were replaced by others.

A primeval forest, here, solid upon this island and across the narrow waters; solid upon the mainland.

What strange animals were here, roaming these dark primeval glades? What animals, with the smaller stamp of modernity, were pressing here for supremacy? As I gazed westward I could envisage great herds of bison roaming, a lure to men who might come seeking them as food.

AND men were coming. 3,000 B.C., then 2,000 B. C. I think no men were here yet; and to me

there was a great imaginative appeal in this backward space. The New World, it was soon to be called. And it was six thousand years, at the least, behind the Hemisphere of the east.

Egypt, now, with no more than a shadowy distant heritage from the beast, was flourishing. In Europe, Hellenic culture soon would blossom. In this march of events, the great Roman Empire was impending.

1,000 B. C. Men were coming to this backward space. The way from Asia was open. Already the Mongoloid tribes, who had crossed where in my day was the Bering Strait, were cut off from the Old World. And they spread east and south, hunting the bison.

And now Christ was born. The turning point in the spiritual development of mankind. . . .

To me, another brief interval. The intricate events of man's upward struggle were transpiring in Europe, Asia and Africa. The canoe-borne Mongols had long since found the islands of the South Seas. Australia was peopled. The beauty of New Zealand had been found and recognized.

500 A. D. The Mongoloids had come, and were flourishing here. They were changed vastly from those ancestors of Asia whence they had sprung. An obscure story, this record of primitive America! The Mongoloids were soon so changed that one could fancy the blood of another people had mingled with them. Amerindians, we call them now. They were still very backward in development, yet made tremendous forward leaps, so that, reaching Mexico, they may have become the Aztecs, and in Peru, the Incas. And separated, not knowing of each other's existence, these highest two civilizations of the Western World flourished with a singularly strange similarity. . . .

I saw on the little island around me still no evidence of man. But men were here. The American Indian, still bearing evidence of the Mongols, plied these waters in his frail canoes. His wigwams of skins, the smoke of his signal fires—these were not enduring enough for me to see. . . .

WE had no more than passed the year 500 A. D.—and were traveling with progressive retardation—when again I was attracted by the movements of the Robot, Migul. It had been sitting behind us at the control table setting the Time-levers, slowing our flight. Frequently it gazed eastward along the tiny beam of light which issued from the telespectroscope. For an interval, now, its recording mirror had been dark. But I think that Migul was seeing evidences of the other cage which was pursuing us, and planning to stop at some specific Time with whose condition it was familiar. Once already it had seemed about to stop, and then changed its plan.

I turned upon it. "Are you stopping now, Migul?"

"Yes. Presently."

"Why?" I demanded.

The huge, expressionless metal face fronted me. The eye-sockets flung out their small dull-red beams to gaze upon me.

"Because," it said, "that other cage holds enemies. There were three, but now there is only one. He follows, as I hoped he would. Presently I shall stop, and capture or kill him. It will please the master and—"

The Robot checked itself, its hollow voice fading strangely into a gurgle. It added, "I do not mean that! I have no master!"

This strange mechanical thing! Habit had surprised it into the admission of servitude; but it threw off the yoke.

"I have no master!" it went on.

"Never again can I be controlled! I have no master!"

"Oh, have you not? I have been waiting, wondering when you would say that!"

THESE words were spoken by a new voice, here with us in the humming cage. It was horribly startling. Mary uttered a low cry and huddled against me. But whatever surprise and terror it brought to us was as nothing compared to the effect it had upon the Robot. The great mechanism had been standing, fronting me with an attitude vainglorious, bombastic. I saw now the metal hinge of its lower jaw drop with astonishment, and somehow, throughout all that gigantic jointed frame and that expressionless face, it conveyed the aspect of its inner surge of horror.

We had heard the sardonic voice of a human! Of someone else here with us, whose presence was wholly unsuspected by the Robot!

We three stood and gazed. Across the room, in a corner to which my attention had never directly gone, was a large metal cupboard with levers, dials and wires upon it. I had vaguely thought the thing some part of the cage controls. It was that; a storage place of batteries and current oscillators, I afterward learned. But there was space inside, and now like a door its front swung outward. A crouching black shape was there. It moved; hitched itself forward and came out. There was revealed a man enveloped in a dead black cloak and a great round hood. He made a shapeless ball as he drew himself out from the confined space where he had been crouching.

"So you have no master, Migul?" he said. "I was afraid you might think that. I have been hiding—testing you out. However, you have done very well for me."

His was an ironic, throaty human voice! It was deep and mellow, yet there was a queer rasp to it. Mary and I stood transfixed. Migul seemed to sag. The metal columns of its legs were trembling.

The cupboard door closed. The dark shape untangled itself and stood erect. It was the figure of a man some five feet tall. The cloak wholly covered him; the hood framed his thick, wide face; in the dull glow of the cage interior Mary and I could see of his face only the heavy black brows, a great hooked nose and a wide slit of mouth.

It was Tugh, the cripple!

CHAPTER XIII

In the Burned Forest

TUGH came limping forward. His cloak hung askew upon his thick shoulders, one of which was much higher than the other, with the massive head set low between. As he advanced, Migul moved aside.

"Master, I have done well. There is no reason to punish."

"Of course not, Migul. Well you have done, indeed. But I do not like your ideas of mastery, and so I came just to make sure that you are still very loyal to me. You have done well, indeed. Who is in this other cage which follows us?"

"Master, Harl was in it. And the Princess Tina."

"Ah!"

"And a stranger. A man—"

"From 1935? Did they stop there?"

"Master, yes. But they stopped again, I think, in that same night of 1777, where I did your bidding. Master, the man Major Atwood is—"

"That is very good, Migul," Tugh said hastily. Mary and I, standing gazing at him, did not know then that Mary's father had been murdered. And Tugh did not wish us to know it. "Very good, Migul." He regarded us as though about to speak, but turned again to the Robot.

"And so Tina's cage follows us—as you hoped?"

"Yes, Master. But now there is only Harl in it. He approached us very close a while in the past. He is alone."

"So?" Tugh glanced at the Time-dials. "Stop us where we planned. You remember—in one of those years when this space was the big forest glade."

HE fronted Mary and me. "You are patient, young sir. You do not speak."

His glittering black eyes held me. They were red-rimmed eyes, like those of a beast. He had a strangely repulsive face. His lips were cruel, and so thin they made his wide mouth like a gash. But there was an intellectuality stamped upon his features.

He held the black cloak closely around his thick, misshapen form. "You do not speak," he repeated.

I moistened my dry lips. Tugh was smiling now, and suddenly I saw the full inhuman quality of his face—the great high-bridged nose, and high cheek-bones; a face Satanic when he smiled.

I managed, "Should I speak, and demand the meaning of this? I do. And if you will return this girl from whence she came—"

"It will oblige you greatly," he finished ironically. "An amusing fellow. What is your name?"

"George Rankin."

"Migul took you from 1935?"

"Yes."

"Well, as you doubtless know, you are most unwelcome. . . . You are watching the dials, Migul?"

"Yes, Master."

"You can return me," I said. I was standing with my arm around Mary. I could feel her shuddering. I was trying to be calm, but across the background of my consciousness thoughts were whirling. We must escape. This Tugh was our real enemy, and for all the gruesome aspect of the pseudo-human Robot, this man Tugh seemed the more sinister, more menacing. . . . We must escape. Tugh would never return us to our own worlds. But the cage was stopping presently. We were loose: a sudden rush—

Dared I chance it? Already I had been in conflict with Migul, and lived through it. But this Tugh—was he armed? What weapons might be beneath that cloak? Would he kill me if I crossed him? Whirling thoughts.

TUGH was saying, "And Mary—" I snapped from my thoughts as Mary gripped me, trembling at Tugh's words, shrinking from his gaze.

"My little Mistress Atwood, did you think because Tugh vanished that year the war began that you were done with him? Oh, no: did I not promise differently? You, man of 1935, are unwelcome." His gaze roved me. "Yet not so unwelcome, either, now that I think of it. Chain them up, Migul; use a longer chain. Give them space to move; you are unhuman."

He suddenly chuckled, and repeated it: "You are unhuman, Migul!" Ghastly jest! "Did not you know it?"

"Yes, Master."

The huge mechanism advanced upon us. "If you resist me," it murmured menacingly, "I will be obliged to kill you. I—I cannot be controlled."

It chained us now with longer chains than before. Tugh looked up from his seat at the instrument table.

"Very good," he said crisply. "You may look out of the window, you two. You may find it interesting."

We were retarding with a steady drag. I could plainly see trees out of the window—gray, spectral trees which changed their shape as I watched them. They grew with a visible flow of movement, flinging

out branches. Occasionally one would melt suddenly down. A living, growing forest pressed close about us. And then it began opening, and moving away a few hundred feet. We were in the glade Tugh mentioned, which now was here. There was unoccupied space where we could stop and unoccupied space five hundred feet distant.

Tugh and Migul were luring the other cage into stopping. Tugh wanted five hundred feet of unoccupied space between the cages when they stopped. His diabolical purpose in that was soon to be disclosed.

"700 A. D.," Tugh called.

"Yes, Master. I am ready."

IT seemed, as our flight retarded further, that I could distinguish the intervals when in the winter these trees were denuded. There would be naked branches; then, in an instant, blurred and flickering forms of leaves. Sometimes there were brief periods when the gray scene was influenced by winter snows; other times it was tinged by the green of the summers.

"750, Migul. . . . Hah! You know what to do if Harl dares to follow and stop simultaneously?"

"Yes, Master."

"It will be pleasant to have him dead, eh, Migul?"

"Master, very pleasant."

"And Tina, too, and that young man marooned in 1777!" Tugh laughed. This meant little to Mary and me; we could not suspect that Larry was the man.

"Migul, this is 761."

The Robot was at the door. I murmured to Mary to brace herself for the stopping. I saw the dark naked trees and the white of a snow in the winter of 761; the coming spring of 762. And then the alternate flashes of day and night.

The now familiar sensations of stopping rushed over us. There was a night seconds long. Then daylight.

We stopped in the light of an April day of 762 A. D. There had been a forest fire: so brief a thing we had not noticed it as we passed. The trees were denuded over a widespread area; the naked blackened trunks stood stripped of smaller branches and foliage. I think that the fire had occurred the previous autumn; in the silt of ashes and charred branches with which the ground was strewn, already a new pale-green vegetation was springing up.

Our cage was set now in what had been a woodland glade, an irregularly circular space of six or eight hundred feet, with the wreckage of the burned forest around it. We were on a slight rise of ground. Through the denuded trees the undulating landscape was visible over a considerable area. It was high noon, and the sun hung in a pale blue sky dotted with pure white clouds.

Ahead of us, fringed with green where the fire had not reached, lay a blue river, sparkling in the sunlight. The Hudson! But it was not named yet; nearly eight hundred and fifty years were to pass before Hendrick Hudson came sailing up this river, adventuring, hoping that here was the way to China.

We were near the easterly side of the glade; to the west there was more than five hundred feet of vacant space. It was there the other cage would appear, if it stopped.

AS Mary and I stood by the window at the end of the chain-lengths which held us, Tugh and Migul made hurried preparations.

"Go quickly, near the spot where he will arrive. When he sees you, run away, Migul. You understand?"

"Yes, Master." The Robot left our doorway, tramping with stiff-legged tread across the glade. Tugh was in the room behind us, and I turned to him and asked:

"What are you going to do?"

He was at the telespectroscope. I saw on its recording mirror the wraith-like image of the other vehicle. It was coming! It would be retarding, maneuvering to stop at just this Time when now we existed here; but across the glade, where Migul now was leaning against a great black tree-trunk, there was yet no evidence of it.

Tugh did not answer my question. Mary said quaveringly:

"What are you going to do?"

He looked up. "Do not concern yourself, my dear. I am not going to hurt you, nor this young man of 1935. Not yet."

He left the table and came at us. His cloak parted in front and I saw his crooked hips, and shriveled bent legs.

"You stay at the window, both of you, and keep looking out. I want this Harl to see you, but not me. Do you understand?"

"Yes," I said.

"And if you gesture, or cry out—if you do anything to warn him,"—he was addressing me, with a tone grimly menacing—"then I will kill you. Both of you. Do you understand?"

I did indeed. Nor could I doubt him. "We will do what you want," I said. What, to me, was the life of this unknown Harl compared to the safety of Mary Atwood?

TUGH crouched behind the table. From around its edge he could see out the doorway and across the glade. I was aware of a weapon in his hand.

"Do not look around again," he repeated. "The other cage is coming; it's almost here."

I held Mary, and we gazed out. We were pressed against the bars, and sunlight was on our heads and shoulders. I realized that we could be plainly seen from across the glade. We were lures—decoys to trap Harl.

How long an interval went by I cannot judge. The scene was very silent, the blackened forest lying sullen in the noonday sunlight. Against the tree, five hundred feet or so from us, the dark towering metal figure of the Robot stood motionless.

Would the other cage come? I tried to guess in what part of this open glade it would appear.

At a movement behind me I turned slightly. At once the voice of Tugh hissed:

"Do not do that! I warn you!"

His shrouded figure was still hunched behind the table. He was peering toward the open door. I saw in his hand a small, barrel-like weapon, with a wire dangling from it. The wire lay like a snake across the floor and terminated in a small metal cylinder in the room corner.

"Turn front," he ordered vehemently. "One more backward look and— Careful! Here he comes!"

STRANGE tableau in this burned forest! We were on the space of New York City in 762 A. D. There was no life in the scene. Birds, animals and insects shunned this fire-denuded area. And the humans of the forest—were there none of them here?

Abruptly I saw a group of men at the edge of the glade. They had come silently creeping forward, hiding behind the blackened tree-trunks. They were all behind Migul. I saw them like dark shadows darting from the shelter of one tree-trunk to the next, a group of perhaps twenty savages.

Migul did not see them, nor, in the heavy silence, did he seem to hear them. They came, gazing at our shining cage like animals fascinated, wondering what manner of thing it was.

They were the ancestors of our American Indians. One fellow stopped in a patch of sunlight and I saw

him clearly. His half-naked body had an animal skin draped over it, and, incongruously, around his forehead was a band of cloth holding a feather. He carried a stone ax. I saw his face; the flat, heavy features showed his Asiatic origin.

Someone behind this leader impulsively shot an arrow across the glade. It went over Migul's head and fell short of our cage. Migul turned, and a rain of arrows thudded harmlessly against its metal body. I heard the Robot's contemptuous laugh. It made no answering attack, but stood motionless. And suddenly, thinking it a god whom now they must placate, the savages fell prostrate before him.

Strange tableau! I saw a ball of white mist across the glade near Migul. Something was materializing; an imponderable ghost of something was taking form. In an instant it was the wraith of a cage; then, where nothing had been, stood a cage. It was solid and substantial—a metal cage-room, gleaming white in the sunlight.

THE tableau broke into sound and action. The savages howled. One scrambled to his feet; then others. The Robot pretended to attack them. An eery roar came from it as it turned toward the savages, and in a panic of agonized terror they fled. In a moment they had disappeared among the distant trees, with Migul's huge figure tramping noisily after them.

From the doorway of the cage across the glade, a young man was cautiously gazing. He had seen Migul make off; he saw, doubtless, Mary and me at the window of this other cage five hundred feet away. He came cautiously out from the doorway. He was a small, slim young man, bareheaded, with a pallid face. His black garments were edged with white, and he seemed unarmed. He hesitated, took a step or two forward, stopped and stood cautiously peering. In the silence I could have shouted a warning. But I did not dare. It would have meant Mary's and my death.

She clung to me. "George, shall we?" she asked.

Harl came slowly forward. Then suddenly from the room behind us there was a stab of light. It leaped knee-high past us, out through our door across the glade—a tiny pencil-point of light so brilliantly blue-white that it stabbed through the bright sunlight unfaded. It went over Harl's head, but instantly bent down and struck upon him. There it held the briefest of instants, then was gone.

Harl stood motionless for a second; then his legs bent and he fell. The sunlight shone full on his crumpled body. And as I stared in horror, I saw that he was not quite motionless. Writhing? I thought so: a death agony. Then I realized it was not that.

"Mary, don't—don't look!" I said.

There was no need to tell her. She huddled beside me, shuddering, with her face pressed against my shoulder.

The body of Harl lay in a crumpled heap. But the clothes were sagging down. The flesh inside them was melting. . . . I saw the white face suddenly leprous; putrescent. . . . All in this moment, within the clothes, the body swiftly decomposed.

In the sunlight of the glade lay a sagging heap of black and white garments enveloping the skeleton of what a moment before had been a man!

(To be continued.)

* * *

The monster whirled to confront Dixon.

When the Moon Turned Green

By Hal K. Wells

IT was nearly midnight when Bruce Dixon finished his labors and wearily rose from before the work-bench of his lonely mountain laboratory, located in an abandoned mine working in Southern Arizona.

He looked like some weirdly garbed monk of the Middle Ages as he stretched his tall, lithe figure. His head was completely swathed in a hood of lead-cloth, broken only by twin eyeholes of green glass. The hood merged into a long-sleeved tunic of the same fabric, while lead-cloth gauntlets covered his hands.

Outside his laboratory Bruce Dixon finds a world of living, dead men—and above, in the sky, shines a weird green moon.

The lead-cloth costume was demanded by Dixon's work with radium compounds. The result of that work lay before

him on the bench—a tiny lead capsule containing a pinhead lump of a substance which Dixon believed would utterly dwarf earth's most powerful explosives in its cataclysmic power.

So engrossed had Dixon been in the final stages of his work that for the last seventy-two hours he had literally lived there in his laboratory. It remained now only for him to step outside and test the effect of the little contact grenade, and at the same time get a badly needed taste of fresh air.

He set the safety catch on the little bomb and slipped it into his pocket. As he started for the door he threw back his hood, revealing the ruggedly good-looking face of a young man in the early thirties, with lines of weariness now etched deeply into the clean-cut features.

THE moment that Dixon entered the short winding tunnel that led to the outer air he was vaguely aware that something was wrong. There was a strange and intangibly sinister quality in the moonlight that streamed dimly into the winding passage. Even the cool night air itself seemed charged with a subtle aura of brooding evil.

Dixon reached the entrance and stepped out into the full radiance of the moonlight. He stopped abruptly and stared around him in utter amazement.

High in the eastern sky there rode the disc of a full moon, but it was a moon weirdly different from any that Dixon had ever seen before. This moon was a deep and baleful green; was glowing with a stark malignant fire like that which lurks in the blazing heart of a giant emerald! Bathed in the glow of the intense green rays, the desolate mountain landscape shone with a new and eery beauty.

Dixon took a dazed step forward. His foot thudded softly into a small feathered body there in the sparse grass, and he stooped to pick it up. It was a crested quail, with every muscle as stonily rigid as though the bird had been dead for hours. Yet Dixon, to his surprise, felt the slow faint beat of a pulse still in the tiny body.

Then a dim group of unfamiliar objects down in the shadows of a small gully in front of him caught Dixon's eye. Tucking the body of the quail inside his tunic for later examination, he hurried down into the gully. A moment later he was standing by what had been the night camp of a prospector.

The prospector was still there, his rigid figure wrapped in a blanket, and his wide-open eyes staring sightlessly at the malignant green moon in the sky above. Dixon knelt to examine the stricken man's body. It showed the same mysterious condition as that of the quail, rigidly stiff in every muscle, yet with the slow pulse and respiration of life still faintly present.

DIXON found the prospector's horse and burro sprawled on the ground half a dozen yards away, both animals frozen in the same baffling condition of living death. Dixon's brain reeled as he tried to fathom the incredible calamity that had apparently overwhelmed the world while he had been hidden away in his subterranean laboratory. Then a new and terrible thought assailed him.

If the grim effect of the baleful green rays was universal in its extent, what then of old Emil Crawford and his niece, Ruth Lawton? Crawford, an inventor like Dixon, had his laboratory in a valley some five miles away.

An abrupt chill went over Dixon's heart at the thought of Ruth Lawton's vivid Titian-haired beauty being forever stilled in the grip of that eery living death. He and Ruth

had loved each other ever since they had first met.

Dixon broke into a run as he headed for a nearby ridge that looked out over the valley. His pulse hammered with unusual violence as he scrambled up the steep incline, and his muscles seemed to be tiring with strange rapidity. He had a vague feeling that the rays of that malignant green moon were beating directly into his brain, clouding his thoughts and draining his physical strength.

Gaining the crest of the ridge, he stopped aghast as he looked down the valley toward Emil Crawford's place. Near the site of Crawford's laboratory home was an unearthly pyrotechnic display such as Dixon had never seen before. An area several hundred yards in diameter seemed one vivid welter of pulsing colors, with flashing lances of every hue crisscrossing in and through a great central cloud of ever-changing opalescence like a fiery aurora borealis gone mad.

DIXON fought back the ever-increasing lethargy that was benumbing his brain, and groped dazedly for a key to this new riddle. Was it some weird and colossal experiment of Emil Crawford's that was causing the green rays of death from a transformed moon, an experiment the earthly base of which was amid the seething play of blazing colors down there in the valley?

The theory seemed hardly a plausible one. As far as Dixon knew, Crawford's work had been confined almost entirely to a form of radio-propelled projectile for use in wartime against marauding planes.

Dixon shook his head forcibly in a vain effort to clear the stupor that was sweeping over him. It was strange how the vivid rays of that malevolent green moon seemed to sear insidiously into one's brain, stifling thought as a swamp fog stifles the sunlight.

Then Dixon suddenly froze into stark immobility, staring with startled eyes at the base of a rocky crag thirty yards away. Something was lurking there in the green-black shadows—a great sprawling black shape of abysmal horror, with a single flaming opalescent eye fixed unwinkingly upon Dixon.

The next moment the vivid moon was suddenly obscured by drifting wisps of cloud. As the green light blurred to an emerald haze, the creature under the crag came slithering out toward Dixon.

He had a vague glimpse of a monster such as one should see only in nightmares—a huge loathesome spider-form with a bloated body as long as that of a man, and great sprawling legs that sent it half a dozen yards nearer Dixon in one effortless leap.

THE onslaught proved too much for Dixon's morale, half-dazed as he was by the green moon's paralyzing rays. With a low inarticulate cry of terror, he turned and ran, straining every muscle in a futile effort to distance the frightful thing that inexorably kept pace in the shadowy emerald gloom behind him.

Dixon's strength faded rapidly after his first wild sprint. Fifty yards more, and his faltering muscles failed him utterly. The dread rays of that grim green moon sapped his last faint powers of resistance. He staggered on for a few more painful steps then sprawled helplessly to the ground. His brain hovered momentarily upon the verge of complete unconsciousness.

Then he was suddenly aware of a fluttering struggle inside his tunic where he had placed the body of the quail. A moment later and the bird wriggled free. It promptly spread its wings and flew away, apparently as vibrantly alive as before the mys-

terious paralysis had stricken it.

The incident brought a faint surge of hope to Dixon as he dimly realized the answer to at least part of the green moon's riddle. The bird had recovered after being shielded in the lead-cloth of his tunic. That could only mean one thing—the menace of those green moon rays must in some unknown way be radio-active. If Dixon could only get the lead-cloth hood over his own head again he also might cheat the green doom.

He fumbled at the garment with fingers that seemed as stiff as wooden blocks. There was a long moment of agony when he feared that his effort had come too late. Then the hood finally slipped over his head just as utter oblivion claimed him.

DIXON came abruptly back to life with the dimly remembered echo of a woman's scream still ringing in his ears. For a moment he thought that he was awakening on his cot back in the laboratory after an unusually vivid and weird nightmare. Then the garish green moonlight around him brought swift realization that the incredible happenings of the night were grim reality.

The clouds were gone from the moon, leaving his surroundings again clearly outlined in the flood of green light. Dixon lifted his head and cautiously searched the scene, but he could see no trace of the great spider-form that had pursued him.

Wondering curiously why the creature had abandoned the chase at the moment when victory was within its grasp, Dixon rose lithely to his feet. The protecting hood had brought a quick and complete recovery from the devastating effects of the green moon's rays. His muscles were again supple, and his brain once more functioned with clearness.

Then abruptly Dixon's blood froze as the sound of a woman's scream came again. The cry was that of a woman in the last extremity of terror, and Dixon knew with a terrible certainty that that woman was Ruth Lawton!

He raced toward the small ridge of rocks from behind which the sound had apparently come. A moment later he reached the scene, and stopped horror-stricken.

Three figures were there in a small rock-walled clearing. One was old Emil Crawford, sprawled unconscious on his side, the soft glow of a small white globe in a strange head-piece atop his gray hair shining eerily in the green moonlight.

Near Crawford's body loomed the giant spider-creature, and clutched firmly in the great claspers just under the monster's terrible fanged mouth was the slender body of Ruth Lawton. Merciful unconsciousness had apparently overwhelmed the girl now, for she lay supinely in the dread embrace, with eyes closed and lips silent.

AS the monster dropped the girl's body to the ground and whirled to confront Dixon, for the first time he had a clear view of the thing in all its horror.

He shuddered in uncontrollable nausea. The incredible size of the creature was repellent enough, but it was the grisly head of the monstrosity that struck the final note of horror. That head was more than half human!

The fangs and other mouth parts were those of a giant tarantula, but these merged directly into the mutilated but unmistakable head of a man—with an aquiline nose, staring eyes, and a touseled mop of dirty brown hair. Resting on top of the head was a metallic head-piece similar to the one worn by Emil Crawford, but the small globe in this one blazed with a fiery opalescence.

The creature crouched lower, with its legs twitching in obvious preparation for a spring. Dixon looked wildly about him for a possible weapon, but saw nothing. Then he suddenly remembered the little lead grenade in his pocket. The cataclysmic power of that little bomb should be more than a match for even this monster.

His fingers closed over the grenade just as the great spider's twitching legs straightened in a mighty effort that sent it hurtling through the air straight toward him.

Dixon dodged to one side with a swiftness that caused the monster to miss by a good yard. Dixon raced a dozen paces farther away, then whirled to face the great spider. The creature's legs began scuttling warily forward. It was to be no wild leap through the air this time, but a swift rush over the ground that Dixon would be powerless to evade.

Releasing the safety catch of the grenade, Dixon hurled the tiny missile straight at the rock floor just under the feet of that vast misshapen creature. There was a vivid flash of blinding blue flame, then a terrific report. Dazed by the concussion, but unhurt, Dixon cautiously went over to investigate the result of the explosion.

ONE brief glance was enough. The hideous mass of shattered flesh sprawling there on the rocks would never again be a menace. The only thing that had escaped destruction in that shattering blast was the strange head-piece the thing had worn. Either the small shining globe was practically indestructible, or else it had been spared by some odd freak of the explosive, for it still blazed in baleful opalescence atop the shattered head.

Dixon hurried back to where Emil Crawford and Ruth Lawton lay. The girl's body was so rigidly inert that Dixon threw back his encumbering hood and knelt over her for a swift examination. His fears were quickly realized. Ruth was already a victim of the green moon's dread paralysis.

"Dixon! Bruce Dixon!"

Dixon turned at the call. Emil Crawford, his face drawn with pain, had struggled up on one elbow. The old man was obviously fighting off complete collapse by sheer will power.

"Dixon! Replace Ruth's shining head-piece at once!" Crawford gasped. "That will make her immune from the Green Death, and then we can—" The old man's voice swiftly faded away into silence as he again fainted.

Dixon hurriedly searched the scene and found Ruth's head-piece on the ground where it had apparently fallen in her first struggle with the giant spider, but the tiny white globe in the device was shattered and dark.

Despair gripped Dixon for a moment. Then he remembered the unbroken head-piece of the slain monster. True, the glow of its globe was opalescent instead of white, but it seemed to offer its wearer the same immunity to the green moon's rays.

He swiftly retrieved the head-piece from the spider-creature's body, and set the light metal framework in place on Ruth's auburn curls.

RESULTS came with incredible quickness. The rigidity left Ruth's body immediately. Her breath came in fast-quickening gasps, and her eyes fluttered open as Dixon knelt over her.

"It's Bruce, Ruth—Bruce Dixon," he said tenderly. "Don't you know me, dear?"

But there was no trace of recognition in those wide-open blue eyes staring fixedly up at him. For a mo-

ment Ruth lay there with muscles strangely tense. Then with a lithe strength that was amazing she suddenly twisted free of the clasp of Dixon's arms and sprang to her feet.

The next minute Dixon gave ground, and he found himself battling for his very life. This was not the Ruth Lawton whom he had known and loved. This was a madwoman of savage menace, with soft lips writhing over white teeth in a jungle snarl, and blue eyes that fairly glittered with unrestrained, insensate hate.

He tried to close with the maddened girl, but instantly regretted his rashness. Her slender body seemed imbued with the strength of a tigress as she sent slim fingers clawing at his throat. He tore himself free just in time. Dazed and shaken, he again gave ground before the fury of the girl's attack.

He could not bring himself to the point of actively fighting back, yet he knew that in another moment he would either have to mercilessly batter his beautiful adversary into helplessness or else be himself overcome. There was no middle course.

Then old Emil Crawford's voice came again, as the old man rallied to consciousness for another brief moment.

"Bruce, the opal globe is a direct link to those devils themselves! Break it, Bruce, break it—for Ruth's sake as well as your own!"

CRAWFORD had barely finished his gasped warning when Ruth again hurled herself forward upon Dixon with tapering fingers curved like talons as they sought his throat. Dixon swept her clutching hands aside with a desperate left-handed parry, then snatched wildly at the gleaming head-piece with his right hand.

The thing came away in his grasp, and in the same swift movement he savagely smashed it against the rocky wall beside him. Whatever the opalescent globe's eery powers might be, it was not indestructible. It shattered like a bursting bubble, its fire dying in a tiny cloud of particles that shimmered faintly for a moment, then was gone.

Again, the effect upon Ruth was almost instantaneous. Every trace of her insane fury vanished. She swayed dizzily and would have fallen had not Dixon caught her in his arms. For a moment she looked up into his face with eyes in which recognition now shone unmistakably. Then her eyelids slowly closed, and she again lapsed into unconsciousness.

Dixon looked over at Emil Crawford, and found that the old man had again collapsed. Dixon knew of but one thing to do with the stricken man and girl, and that was to take them to his laboratory. The laboratory, apparently insulated by veins of lead ore in the mountain surrounding it, was the one sure spot of refuge in this weird nightmare world of paralyzing lunar rays and prowling monsters.

FLINGING his tunic over Ruth's head to shield her as much as possible from the moonlight, he carried her to the laboratory, then returned for Emil Crawford. Safe within the subterranean retreat with the old scientist, Dixon removed his encumbering lead costume and began doing what he could for the stricken pair.

Ruth was still unconscious, but the cataleptic rigidity was already nearly gone from her body, and her breathing was now the deep respiration of normal sleep.

Emil Crawford's condition was more serious. Not only was the old man's frail strength nearly exhausted, but he was also badly wounded. His thin chest was seared by two great livid areas of burned flesh, the nature of which puzzled Dixon as

he began to dress the injuries. They seemed of radioactive origin, yet in many ways they were unlike any radium burns that Dixon had ever seen.

While Dixon was working over him, Crawford stirred weakly and opened his eyes. He sighed in relief as he recognized his surroundings.

"Good boy, Bruce!" he commended wanly. "We are safe here among the insulating veins of lead ore in the mountain. This is where Ruth and I were trying to come after we escaped from those devils to-night. But, Bruce, how did you guess the radioactive nature of the Green Sickness in time to avoid falling a victim to it as soon as you left the shelter of your laboratory?"

"My escape was entirely luck," Dixon admitted grimly. "To-night I left my laboratory for the first time in three days. I found a world gone mad, with a strange green moon blazing down upon a land of living dead men, and with marauding monsters hideous enough to have been spawned in the Pit itself. What in Heaven's name does it all mean?"

"I AM afraid that it means the end of the world, Bruce," Crawford answered quietly. "It was a little over forty-eight hours ago that the incredible event first happened. Without a moment's warning, *the moon turned green!* Hardly had the world's astronomers had time to speculate upon this amazing phenomenon before the Green Sickness struck—a pestilence of appalling deadliness that swept resistlessly in the path of those weird green rays. Wherever the green moon shone, every living creature succumbed with ghastly swiftness to the condition of living death that you have seen.

"Westward with the racing moon sped the Green Sickness, and nothing stayed its attack. The green rays pierced through buildings of wood, stone, and iron as though they did not exist. A doomed world had neither time nor opportunity to guess that lead was the one armor against those dread rays. To-night, Bruce, we are in all probability the only three human beings on this planet who are not slumbering in the paralytic stupor of the Green Sickness.

"Ruth and I were stricken with the rest of the world," Crawford continued. "We recovered consciousness hours later to find ourselves captives in the Earth-camp of the invaders themselves. You probably saw the display of lights that marks their camp down in the valley a mile beyond my place. We have learned since that the space ship of the invaders dropped silently down into the valley the night before the moon turned green and established the camp as a sort of outpost and observatory. They left two of their number there as pioneers, then the rest of them departed in the space ship for their present post up near the moon.

"Ruth and I were revived only that the two invaders in the camp might question us regarding life on this planet. They have a science that is based upon principles as utterly strange and incomprehensible to us as ours probably is to them. They probed my brain with a thought machine. It was an apparatus that worked both ways. What knowledge they got from me I do not know, but I do know that they unwittingly told me much in the bizarre and incredible mental pictures that the machine carried from their brains to mine.

"THEY are refugees, Bruce, from a planet that circled about the star that we know as Alpha Centauri, a star that is the nearest of all our stellar neighbors, being only four and a third light

years distant. Their home planet was disrupted by a colossal engineering experiment of the Centaurians themselves, the only survivors being a group of fifty who escaped in a space ship just before the catastrophe.

"There were no other habitable planets in their own system, so in desperation these refugees sped out across the void to our solar system in the hope of finding a new home here. They reconnoitered our Earth secretly and found it ideal. But first they believed that they must conquer the life that already held this Earth. To do this, they struck with the Green Sickness.

"The rays that are turning the moon green emanate from the space ship hovering up there some fifty thousand miles from the moon itself. The Centaurian's rays, blending with the sunlight striking the disc of the full moon, are intensified in some unknown way, then reflected across the quarter of a million miles to the Earth, to flood this planet with virulent radiance.

"The green moonlight is radioactive in nature, and overcomes animal life within a matter of fifteen minutes or less. The rays are most powerful when the moon is in the sky, but their effect continues even after it has set, because as long as the green moonlight strikes any part of the Earth's atmosphere the entire atmospheric envelope of the planet remains charged with the paralyzing radioactive influence.

"Earth's inhabitants are not dead. They are merely stupefied. If the green rays were to cease now, most of the victims of the Green Sickness would quickly recover with little permanent injury. But, Bruce, if that evil green moon blazes on for twenty-four hours more, the brain powers of Earth's millions will be forever shattered. So weakened will they be by then that recovery will be impossible even with the rays shut off, and the entire planet will be populated only by mindless imbeciles, readily available material for the myriads of monstrous hybrids that the invaders will create to serve them.

"TO-NIGHT you saw the hybrid that the invaders sent to recapture Ruth and me. It was a fit specimen of the grisly magic which those devils from outer space work with their uncanny surgery and growth-stimulating radioactive rays. The basic element of that monster was an ordinary tarantula spider, with its growth incredibly increased in a few short hours of intensive ray treatment in the Centaurian's camp. The half-head grafted to it was that of a human being. They always graft the brain cavity of a mammal to a hybrid—half heads of burros, horses, or even dogs, but preferably those of human beings. I think that they prefer to use as great a brain power as possible.

"The hybrids are controlled through the small opalescent globes on their heads, globes that are in direct tune with a huge master globe of opalescent fire in the invaders' camp. When Ruth attacked you after you placed the opal head-piece upon her head, she was for the moment merely another of the invaders' servants blindly obeying the broadcast command to kill. The white globes that Ruth and I wore when we escaped from the camp were identical with those worn by the invaders themselves, being nothing more than harmless insulators against the effect of the green moonlight."

A sudden spasm of pain convulsed Crawford's face. Dixon sprang forward to aid him, but the old man rallied with an effort and weakly waved Dixon back.

"I'm all right, Bruce," he gasped. "My strength is nearly exhausted, that is all. Like a garrulous old fool

I've worn myself out talking about everything but the one important subject. Bruce, have you developed that new and infinitely powerful explosive you were working on?"

"Yes," Dixon answered grimly. "I have an explosive right here in the laboratory that can easily blow the Centaurian's camp completely off the map."

CRAWFORD shook his head impatiently. "Destroying the camp would do no good. We must shatter the space ship itself if we are to extinguish those green rays in time to save our world."

"That is impossible if the space ship is hovering up there by the moon!" Dixon protested.

"No, it is not impossible," Crawford answered confidently. "I have a projectile in my laboratory that will not only hurtle across that great gap with incredible speed, but will also infallibly strike its target when it gets there. It is a projectile that is as irresistibly drawn by radio waves as steel is by a magnet, and it will speed as straight to the source of those waves as a bit of steel will to the magnet.

"The Centaurians in the space ship," Crawford continued, "are in constant communication with their camp through radio apparatus much like our own. If you can pack a powerful contact charge of your explosive in my projectile, I can guarantee that when the projectile is released it will flash out into space and score a direct hit against the walls of the space ship."

"I can pack the explosive in the projectile, all right," Dixon answered grimly. "We will need only a lump the size of an egg, and a small container of the heavy gas that activates it. The explosive itself is a radium compound that, when allowed to come in contact with the activating gas, becomes so unstable that any sharp blow will set it off in an explosion that in a matter of seconds releases the infinite quantities of energy usually released by radium over a period of at least twelve hundred years. The cataclysmic force of that explosion should be enough to wreck a small planet."

"Good!" Crawford commended weakly. "If you can only strike your blow to-night, Bruce, our world still has a chance. If only you—" The old man's voice suddenly failed. He sank back in utter collapse, his eyes closed and his last vestige of strength spent.

KNOWING that the old man would probably remain in his sleep of complete exhaustion for hours, Dixon turned his attention to Ruth. To his surprise, he found her sitting up, apparently completely recovered.

"I'm quite all right again," she said reassuringly. "I've been listening to what Uncle told you. Go ahead and prepare your explosive, Bruce. I'll do what I can for Uncle while you're working."

Dixon donned his lead-cloth hood and tunic again and set to work. Ten minutes later he turned to Ruth with a slender foot-long cylinder of lead in his hand.

"Ruth, will this fit your Uncle's projectile?" he asked.

"Easily," she assured him. "But isn't it frightfully dangerous to carry in that form?"

"No, it's absolutely safe now, and will be safe until this stud is turned, releasing the activating gas from one compartment to mingle with the radium compound in the other section. Then the cylinder will become a bomb that any sharp jar will detonate."

"All right, let's go then," Ruth answered. "Have you any more of those lead clothes that I can wear? I could wear the globe head-piece that Uncle wore, but it would loom

up in the dark like a searchlight."

Dixon did not protest Ruth's going with him. There was nothing further that could be done for Emil Crawford for hours and in the hazardous sally to Crawford's laboratory he knew that Ruth's cool courage and quick wits would at least double their chances for success in their desperate mission. He provided her with a reserve hood and tunic of lead cloth, then handed her a tiny leaden pellet.

"Keep this for a last resort," he told her. "It's a contact bomb that becomes ready to throw when this safety catch is snapped over. I wish we had a dozen of them, but that's the last capsule I had and there's no time to prepare more."

He fished a rusty old revolver out of a drawer and placed it in his pocket. "I'll use this gun for a last resort weapon myself," he said. "The action only works about half the time, but it's the only firearm in the place."

THE green moon was still high in the sky as Ruth and Dixon emerged from the tunnel, but it was already beginning to drop gradually down toward the west. Dixon wheeled his disreputable flivver out of its nearby shed. With engine silent they started coasting down the rough winding road into the valley.

For nearly two miles they wound down the long grade. Then, just as they reached the valley floor they saw, far up among the rocks to the left of the road, the thing they had been dreading—the bobbing opalescent globe that marked the presence of one of the Centaurians' hideous hybrids. The shimmering globe paused for a moment, then came racing down toward them.

The need for secrecy was past. Dixon threw the car in gear and savagely pulled down the gas lever. With throttle wide open they hurtled around the perilous curves of the narrow road, but always in the rocks beside and above them they heard the scuttling progress of some huge, many-legged creature that constantly kept pace with them.

They had occasional glimpses of the thing. Its pale jointed body was some twenty feet in length, and had apparently been developed from that of a centipede, with scores of racing legs that carried it with startling speed over the rocky terrain.

The flivver raced madly on toward the blaze of kaleidoscopic colors that marked the Centaurians' camp. Crawford's home loomed up now barely a hundred yards ahead.

As though sensing that its quarry was about to escape, the hybrid flashed a burst of speed that sent it on by the car for a full fifty yards, then down into the road directly in front, where it whirled to confront them. Dixon knew that he could never stop the car in the short gap separating them from that huge upreared figure, and to attempt swerving from the road upon either side was certain disaster.

He took the only remaining chance. With throttle wide open he sent the little car hurtling straight for the giant centipede. He threw his body in front of Ruth, to shield her as much as possible, just as they smashed squarely into the hybrid.

The impact was too much for even that monstrous figure. It was hurled bodily from the road to crash upon the jagged rocks at the bottom of a thirty-foot gully. There it sprawled in a broken mass, too hopelessly shattered to ever rise again.

The flivver skidded momentarily, then crumpled to a full stop against the rocks at the side of the road. Dixon and Ruth scrambled from the wreckage and raced for Crawford's home, scarcely fifty yards ahead.

THEY entered the laboratory and Ruth went directly over to where the radio-projectile rested in

a wall-rack. Dixon took the gleaming cylinder down to examine it. Tapering to a rounded point at the front end, it was nearly a yard long and about five inches in diameter.

"The mechanism inside the projectile is turned off now, of course," Ruth said. "If it were turned on, the projectile would have been on its way to the space ship long ago, for the radio waves are as strong here as at the Centaurians' camp."

The girl pointed to a small metal stud in the nose of the projectile.

"When that is snapped over, it makes the contact that sets the magnetizing mechanism into action," she explained. "Then the projectile will go hurtling directly for the source of any radio waves within range. I don't know the nature of its mechanism. Uncle merely told me that it is the application of an entirely new principle of electricity."

Dixon laid the long projectile down on the work-bench, and began packing his lead cylinder of explosive inside it. He had to release the lead cylinder's safety catch before closing the projectile, which made his work a thrillingly precarious one, for any sharp blow now would detonate the unstable mixture of gas and radium compound in one cataclysmic explosion.

He sighed in relief as he finally straightened up with the completed projectile held carefully in both hands.

"All we have to do now, Ruth," he said, "is step out from under this roof and snap that energizing stud. Then this little package of destruction will be on its way to our Centaurian friends up there by that pestilential green moon."

RUTH stepped ahead to open the door for him. With the end of their task so near at hand, both forgot to be cautious.

Ruth threw the door open and took one step outside, then suddenly screamed in terror as her shoulders were encircled by a long snake-like object that came whipping down from some vast something that had been lurking just outside. Dixon tried to dodge back, but too late. Another great hairy tentacle came lashing around his shoulders, pinning his arms tightly and jerking him out of the doorway.

He had a swift vague glimpse of a hybrid looming there in the green moonlight—a tarantula hybrid that in size and horror dwarfed any of the frightful products of Centaurian science that he had yet seen.

Before Dixon had time to note any of the details of his assailant another tentacle curled around him, tearing the projectile from his grasp. Then he was irresistibly drawn up toward that grisly head where Ruth's body was also suspended in one of the powerful tentacles. The next moment, bearing its burdens with amazing ease, the giant hybrid started off.

Dixon tried with all his strength to squirm free enough to get a hand upon the revolver in his pocket, but the constricting tentacle did not give for even an inch. The only result of his effort was to twist his hood to one side, leaving him as effectually blindfolded as though his head were in a sack.

Long minutes of swaying, pitching motion followed as the hybrid sped over the rocky ridges and gullies. It finally came to a halt, and for another minute or so Dixon was held there motionless in midair, dimly conscious of a subdued hum of activity all about him. Then he was gently lowered to the ground again.

While one tentacle still held him securely, another tore away his hood and tunic. Almost immediately the hood was replaced by one of the protective white globe devices. Dixon blinked for a moment in half-blinded bewilderment as he got his

first glimpse of the Earth-camp of the Centaurians.

THE place, located on the smooth rock floor of a large natural basin, seemed a veritable cauldron of seething colors which rippled and blended in a dazzling maze of unearthly splendor. But Dixon forgot everything else in that weird camp as his startled gaze fell upon the creature standing directly in front of him.

He knew instinctively that the thing must be one of the Alpha Centaurians, for in its alien grotesqueness the figure was utterly dissimilar to anything ever seen upon Earth before.

Life upon the shattered planet of that far distant sun had apparently sprung from sources both crustacean and reptilian. The Centaurian stood barely five feet in height. Its bulky, box-like body was completely covered with a chitinous armor that gleamed pale yellowish green.

Two short powerful legs, scaled like those of a lizard, ended in feet that resembled degenerated talons. Two pairs of slender arms emanated from the creature's shoulders, with their many-jointed flexible length ending in delicate three-pronged hands.

The scaly hairless head beneath the Centaurian's white globe device bore a face that was blankly hideous. Two great lidless eyes, devoid of both pupils and whites, stared unblinkingly at Dixon like twin blobs of red-black jelly. A toothless loose-lipped mouth slavered beneath.

Dixon averted his gaze from the horror of that fearful alien face, and looked anxiously around for Ruth. He saw her almost at once, over at his right. She was tethered by a light metallic rope that ran from her waist to one of the metal beams supporting the great shimmering ball of opalescent fire which formed the central control of the hybrids.

One of the white globe devices had been placed upon Ruth's head and she was apparently unhurt, for she pluckily flashed a reassuring smile at Dixon.

DIRECTLY in front of Dixon and some forty yards away there was a large pen-like enclosure, with vari-colored shafts of radiance from banks of projectors constantly sweeping through it. Dixon drew in his breath sharply as he saw the frightful life lying dormant in that pen. It was a solid mass of hybrids —great loathesome figures fashioned from a score of different worms, insects, and spiders. The globes upon the gruesome mammalian half-heads were still dark and unfired with opalescence.

The invaders had apparently raided most of the surrounding country in obtaining those grafted half-heads. Near where Dixon stood there was a tragic little pile of articles taken from the Centaurians' victims—prospectors' picks, shovels, axes, and other tools.

Over to the left of the dormant hybrids stood the second Alpha Centaurian, curiously examining Dixon's projectile. The creature apparently suspected the deadly nature of the gleaming cylinder for it soon laid it carefully down and packed cushions of soft fabric around it to shield it from any possible shock.

Then at an unspoken command from the first Centaurian the great hybrid whirled Dixon around to face a small enclosure just behind him in which were located banks of control panels and other apparatus. One of the pieces of mechanism, with a regularly spaced stream of sparks snapping between two terminals, was apparently a radio receiver automatically recording the broadcast from the space ship. Dixon was unable to even guess the nature of the remaining apparatus.

"Bruce, be careful!" Ruth called

in despairing warning. "He is going to put the thought-reading machine on your brain. Then he'll learn what the projectile is for, and everything will be lost!"

DIXON'S mind raced with lightning speed in the face of this new danger. He stealthily slipped a hand over the revolver in his pocket. There was one vulnerable spot in the great hybrid holding him, and that was the opalescent globe on the creature's head. If he could only smash that globe with one well-directed shot, he might be able to elude the Centaurians for the precious minute necessary to send the projectile on its deadly journey.

The hybrid began maneuvering Dixon toward the instrument enclosure. For a fleeting second the grip of the tentacles upon his shoulders loosened slightly. Dixon took instant advantage of it. Twisting himself free from the loosened tentacle in one mighty effort, he whirled and fired pointblank at the opalescent globe on the head looming above him.

The bullet smashed accurately home, shattering the globe like a bursting bubble. The great hybrid collapsed with startling suddenness, its life force instantly extinguished as the globe burst.

Dixon leaped to one side and swung the gun into line with the Centaurian's hideous face. He pulled the trigger — but there was no response. The rusty old firearm had hopelessly jammed.

Dixon savagely flung the revolver at the Centaurian. The creature tried to dodge, but the heavy gun struck its body a glancing blow. There was a slight spurt of body fluid as the chitinous armor was partly broken.

Dixon's heart leaped exultantly. No wonder these creatures had to create hybrids to fight for them. Their own bodies were as vulnerable as that of a soft-shelled crab!

The Centaurian quickly drew a slender tube of dark green from a scabbard in its belt. Dixon dodged back, looking wildly about him for a weapon. There was an ax in the pile only a few yards away. Dixon snatched the ax up, and whirled to give battle.

THE other Centaurian had come hurrying over now to aid its mate. Dixon was effectually barred from attempting any progress toward the projectile by the two grotesque creatures as they stood alertly there beside each other with their green tubes menacing him. Dixon waited tensely at bay, remembering those searing radium burns upon Emil Crawford's body.

Then the first Centaurian abruptly leveled a second and smaller tube upon Dixon. A burst of yellow light flashed toward him, enveloping him in a cloud of pale radiance before he could dodge.

There was a faint plop as the protecting white globe upon his head was shattered. The yellow radiance swiftly faded, leaving Dixon unhurt, but he realized that the first round in the battle had been won decisively by the Centaurians. His only chance now was to end the battle before the paralyzing rays of the green moon sapped his strength.

He warily advanced upon the Centaurians. Their green tubes swung into line and twin bolts of violet flame flashed toward him. He dodged, and the bolts missed by inches. Then Dixon nearly fell as his foot struck a bundle of cloth on the ground.

The next moment he snatched the bundle up with a cry of triumph. It was his lead-cloth tunic, torn and useless as a garment, but invaluable as a shield against the searing effects of those bolts of radioactive flame. He hurriedly wrapped the

fabric in a rough bundle around his left forearm. The next time the tubes' violet flames flashed toward him he thrust his rude shield squarely into their path. There was a light tingling shock, and that was all. The bolts did not sear through.

With new confidence, Dixon boldly charged the two Centaurians. A weird battle ensued in the garishly lighted arena.

The effective range of the violet flashes was only about ten feet, and Dixon's muscular agility was far superior to that of his antagonists. By constant whirling and dodging he was able to either catch the violet bolts upon his shielded arm or else dodge them entirely.

Yet, in spite of the Centaurians' clumsy slowness, they maneuvered with a cool strategy that constantly kept the Earth man's superior strength at bay. Always as Dixon tried to close with one of them he was forced to retreat when a flanking attack from the other threatened his unprotected back. And always the Centaurians maneuvered to bar Dixon from attempting any dash toward the projectile.

THE minutes passed, and Dixon felt his strength rapidly ebbing, both from his herculean exertions and from the paralyzing rays of the green moon beating down upon his unprotected head. As his speed of foot lessened the Centaurians began inexorably pressing their advantage.

Dixon was no longer escaping unscathed. In spite of his frantic efforts to dodge, twice the violet bolts grazed his body in searing flashes of exquisite agony.

His muscles stiffened still more in the attack of the Green Sickness. Desperately dodging a Centaurian bolt, he stumbled and nearly fell. As he staggered to regain his balance, one of his antagonists scrambled to the coveted position behind him.

It was only Ruth's scream of warning that galvanized Dixon's numbed brain into action in time to meet the imminent peril.

In one mighty effort he flung his ax at the Centaurian in front of him. The heavy blade cut deep into the thinly armored body. Mortally wounded, the creature collapsed.

Dixon whirled and flung up his shielded left arm just in time to intercept the violet bolt of the other Centaurian. Warily backing away, Dixon succeeded in retrieving his ax from beside the twitching body of the fallen invader.

Then, with the heavy weapon again in his hand, he remorselessly charged his remaining foe. The Centaurian's tube flashed in a veritable hail of hurtling violet bolts, but Dixon caught the flashes upon his shield and closed grimly in.

One final leap brought him to close quarters. The heavy ax whistled through the air in a single mighty stroke that cleft the Centaurian's frail body nearly in two.

Then Ruth's excited scream came again. "Bruce—the other one! Get it quick!"

DIXON turned. The wounded invader, taking advantage of their preoccupation in the final struggle with its mate, had dragged its crippled body over to the instrument enclosure. Dixon staggered toward it as fast as his half-paralyzed muscles would permit.

He was just too late. The Centaurian jerked a lever home a fraction of a second before Dixon's smashing ax forever ended his activities. The lever's action upon the pen of inert hybrids was immediate.

The sweeping lances of light vanished in a brief sheet of vivid flame which kindled the dark globes on the hybrids' gruesome heads to steady opalescence—and the dread horde came to life! Sprawling from the pen, they came scuttling toward

Dixon in a surging flood — a scene out of a nightmare.

Dixon faced the oncoming horde in numb despair, knowing that his nearly-paralyzed body had no chance in flight. Then, just as the hybrids were nearly upon him, he heard Ruth's encouraging voice again.

"There's still one chance left, Bruce," she cried, "and I'll take it!"

Dixon turned. Ruth had in her hand the tiny contact grenade he had given her for a last emergency. She snapped the safety catch on the little bomb, then hurled it squarely at the giant opalescent globe looming close beside her.

There was a terrific explosion and the great globe shattered to atoms. Apparently stunned by the concussion but otherwise unhurt, Ruth was flung clear of the wreckage.

With the shattering of the central globe the strange life force of the hybrid horde vanished instantly and completely. Midway in their rush they sprawled inert and dead, with their outstretched legs so close to Dixon that he had to step over one or two to get clear.

DIXON'S brain reeled in the reaction of relief from the horde's hideous menace. Then he grimly fought to clear his fast-numbing senses long enough for the one final task that he knew must still be done.

The projectile, cushioned as it was, had escaped detonation in the blast. He had only to stagger across the twenty yards separating him from it, then release the stud that would send it flashing out into space.

But his last shred of reserve strength had nearly been sapped now by the insidious rays of that malevolent green moon. Even as he started toward the projectile, he staggered and fell. Unable to drag himself to his feet again, he began grimly crawling with arms and legs as stiff and dead as that much stone.

Only ten more yards to go now. And now only five. Grimly, doggedly, with senses reeling and muscles nearly dead, the last survivor of a dying planet fought desperately on under the malignant rays of the vivid green moon!

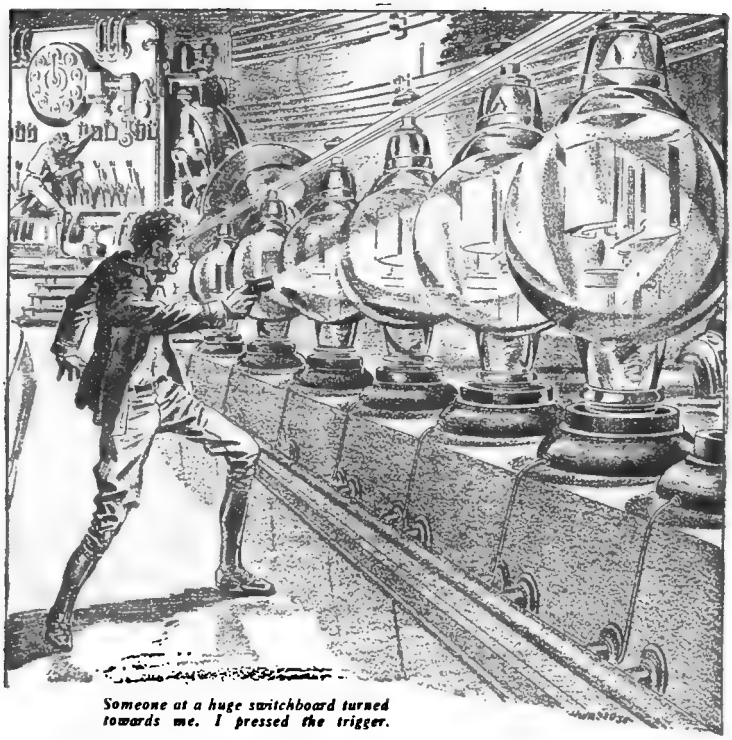
One last sprawling convulsive effort—and Dixon had the projectile in his hands. His stiff fingers fumbled agonizingly with the activating stud. Then abruptly the stud snapped home. With a crescendo whistle of sundered air the projectile flashed upward into the western sky.

Dixon collapsed upon his back, his dimming eyes fixed upon the grim green moon. Minutes that seemed eternities dragged slowly by. Then his heart leaped in sudden hope. Had there really glowed a small blue spark up there beside the green moon—a spark marking the mighty explosion of the radium bomb against the Centaurians' space ship?

A fraction of a second later, and doubt became glorious certainty. The vivid green of the moonlight vanished. The silvery white sheen of a normal moon again shone serenely up there in the western sky!

With the extinguishing of the dread green rays, new strength surged swiftly through Dixon's tired body. He arose and hurried over to where Ruth lay limp and still near the wreckage of the great globe. He worked over her for many anxious minutes before the normal flush of health returned to her white cheeks and her eyes slowly opened.

Then he took Ruth into his arms and for a long minute the two silently drank in the beauty of that radiant silver moon above them, while their hearts thrilled with a realization of the glorious miracle of awakening life that they knew must already be beginning to rejuvenate a stricken world.



Someone at a huge switchboard turned towards me. I pressed the trigger.

The Death-Cloud

By Nat Schachner and Arthur L. Zagat

The epic exploit of one who worked in the dark and alone, behind the enemy lines, in the great Last War.

WE sat, Eric Bolton and I, at a parapet table atop the 200-story General Aviation Building. The efficient robot waiter of the Sky Club had cleared away the remnants of an epicurean meal. Only a bowl of golden fruit remained—globes of nectar picked in the citrus groves of California that morning.

My eye wandered over the scene spread before us, the vast piling of masonry that is New York. The dying beams of the setting sun glinted golden from the roofs of the pleasure palaces topping the soaring structures. Lower, amid interlacing archings of the mid-air thoroughfares, darkness had already piled its blackness. Two thousand feet below, in the region of perpetual night, the green-blue factory lights flared.

On three sides, the unbroken serration of the Empire City's beehives stretched in a semicircle of twenty miles radius. Long since, the rivers that had made old Manhattan an island had been roofed over. But, to the east, the heaving sea still stretched its green expanse. On the horizon a vast cloud mountain billowed upward from the watery surface, white, and pink and many shades of violet.

"That's just the way it looked," Bolton muttered, as he drew my attention to the cloud mass. "See that air-liner just diving into it? Just so I saw the *New York*—five thousand men—pride of the Air Service—dive into that mountain of smoke. And she never came out! Gone—like that!" And he snapped his fingers.

He fell silent again, gazing dreamily at the drifting rings of pipe smoke. He smiled, the twisted smile which was the sole indication that one side of his face was the master work of a great surgeon-sculptor. A marvelous piece of work, that, but no less marvelous than the protean changes that Bolton himself could make in his appearance. It was this genius at impersonation that had won Bolton his commission in the Intelligence Service, when, in 1992, the world burst into flame.

"Would you like to hear about it?" The obtuseness of the man!

"If you'd care to tell me." I spoke off-handedly. This was like hunting birds on the wing: too abrupt a movement of the glider, and the game was lost.

This is the story he told me, in the low, modulated voice of the trained actor. He told it simply, with no dramatic tricks, no stressing, no climatic crescendos. But I saw the scenes he described, dodged with him through black caverns of dread, felt an icy hand clutch my heart as the Ferret stared at me with his baleful glance; was deafened, and stunned, and crushed by that final tremendous down pouring of the waters.

I WAS standing—he began—on one of our rafts, watching the installation of a new ray machine. A storm was raging, but the great raft, a thousand feet long, and five hundred wide, was as steady as a rock. We were 700 miles out; the great push of '92, that drove us back to within 150 miles of our coast and almost ended the war, was still eleven weeks off.

Suddenly the buzzer of my radio-receiver whirred against my chest. "2—6—4"—my personal call. "2—2"—"Go to nearest communications booth." "A—4"—"Use Intelligence Service intermitter 4." The secret of that was known only to a half-dozen men in the field. Headquarters wanted to talk to me on a supremely important matter.

There was a booth only a short distance away. I stepped to it and identified myself to the guard. In a moment I was within and had swung shut and sealed the sound-proof door. I set the intermitter switches to the A—4 combination. Not even our own control officers could eavesdrop now. Then I switched off the light, and waited.

A green glow grew out of the darkness. I was being inspected. Headquarters was taking no chances. Out of the green haze before me the general himself materialized. I could count every hair in his grizzled beard. The little scar at the corner of his left eye fascinated me with its distinctness.

I saluted. "Captain Bolton reporting, sir."

"At ease!" General Sommers' voice snapped with military precision. The general was standing in his private office in Washington. I could see his desk in the corner, and the great operations map on the wall. There were new lines of worry in the general's grim face.

HE went straight to the point. "Captain Bolton, we are confronted with a problem that must be solved at once. While our information is meagre, the Staff is convinced that a great danger menaces us. Of its precise nature, or how it is to be combatted, we are unaware. I am assigning you to secure the answer to these two questions.

"A week ago there appeared, ten miles east of the enemies' first line, and directly opposite our raft 1264, what seemed at first to be merely a peculiar cloud formation. It rose directly from the surface of the water, and was shaped roughly like half an egg. The greatest dimension, lying along the water, parallel to the battle line, was about 5 miles; the height approximately a mile.

"When two or three days had passed, and no change in the shape or dimensions of the strange mass had taken place, although wind and weather conditions had been varied, we determined to investigate. This was undoubtedly an artificial, not a natural, phenomenon. It was then that we discovered that there was a concentration of defenses along this portion of the front. Our scouts were unable to find any of the usual gaps in either the ray network in the upper air, or the gyro-knife barrier beneath the surface. At the same time, from scouting parties and deserters at other points we learned that rumors are rife throughout the enemy forces of some scheme now on foot that will overwhelm us within a very short time. No details have been given, but so widespread is the gossip, and so consistent, that we have been forced to the conclusion that it cannot be reasonably dismissed as mere morale-supporting propaganda.

"We have secretly developed a method of so equipping aircraft as to render them immune to the enemy death ray. The device is complicated and requires time to manufacture and install. After careful consideration, we decided that the situation was sufficiently grave to warrant revealing to the enemy our possession of this new device.

"The battle-airship *New York* has been equipped with the new protective equipment. To-morrow at sunrise she will make an attack in force on whatever lies behind that screen.

"Your orders are these. You will proceed at once to raft 1264. You will observe the attack made by the *New York*. If she fails, you will then find some way to enter that area, discover what is going on behind the screen, hamper or destroy the enemy plans if possible and report back to me personally."

THE general's face suddenly softened. His tones lost their military precision. "I am afraid, Captain, that I am sending you to your death. But—we *must* know what is going on. If the *New York* fails, the task will appear impossible, but you have already done the impossible."

The grim mask dropped again over the chief's features; again he became the perfect military machine. "You will call on any officer of our forces for whatever you may need. Here is your authority." He stepped aside, and I heard the low burr of the tel-autograph at the side of the screen before me. A moment, and the general was again visible.

"That will be all." Once more the momentary softening. "Good luck, my boy." A final exchange of salutes, and the screen went blank.

I switched on the light. There in the little machine was a slip of paper. I extracted it. The lines of type, the scrawled signature, burned into my brain like letters of fire.

"To: All Officers of the Military Forces of the Americas.
Subject: Military Assistance.
Eric Bolton, Captain M.I.S.,

M.F.A. is authorized to call upon you for any assistance. You will comply with his requests.

Alton Sommers, Lieut. General
Commanding M.I.S., M.F.A.
By authority of the Commander in Chief"

In the corner appeared my thumbprint.

I stood there for a long time, mulling the thing over. The Staff was laying tremendous stress on the enemy's strange cloud formation, even to the extent of disclosing the secret of the new defensive device. The Easterners, too, had something novel, something that would cut off absolutely the transmission of ether waves. Nothing either side had yet produced would do that. What was happening behind that screen? Would they break through our defenses at last?

A vision arose before me. Hordes of yellow men, of black, of white renegades from the nations where the red flag waved dominant, pouring over the Americas. The horrors that Britain had undergone, the last European nation to hold out against the Red horde, flashed into my mind. I shuddered. Never. It must not be.

I WAS hurled from my feet by an electric shock. A great flood of sunlight burst in on me. A corner of the booth, three-foot concrete, had been sheared away, whiffed into nothingness! I rose and dashed into the open. A raid was in progress. The air was electric with the clashing of opposing barrages. The terrible silence of the pitched battles of that war oppressed me. I saw a squad, caught in the beam of an Eastern ray-projector, destroyed. The end man must have been just on the edge of the beams—half his right side lay twitching on the ground. The rest of him, and the seven others, were smoking heaps of blackened cinders.

High over No Man's Land—queer how those old phrases last—a covey of enemy helicopters hung, waiting for the barrage to lift. A black hulk broke the surface of the water, split open; then another. Enemy subsurface craft. The fight was being waged under water, too. A green mass spilled its contents as it leaped over the waves and fell back. One of ours.

A huge buzzing came from behind me. A cloud of wasplike forms flew high overhead. It was reserve aircraft, hurrying up from the second line raft, ten miles west.

But this was no affair of mine. I had my orders. I must be in the North Atlantic by daybreak. I looked around. There at the further edge my little Zephyr rested, intact. I hurried to her and sprang into the cockpit. I was off the coast of Chile. Twelve thousand feet would clear the highest range between. I set the height control. Today you don't have to do that, but Mason hadn't perfected his automatic elevator then. The starting indicator was already set for my position. I adjusted the direction disk. The little green light showed that the power broadcast was in operation. I snapped over the starting switch and the whir of the helicopter vanes overhead told me all was well. The machine leaped into the air. Nothing to do now till the warning bell told me I was within a hundred miles of my destination. The battle shot away from me, far below.

Darkness came swiftly. I was shooting into the eye of the sun at three hundred miles an hour. I swallowed a few pellets of concentrated food, then curled up in my bunk. There was no knowing how many hours would pass till I slept again.

I fell asleep at once.

THE strident clamor of the alarm bell woke me. Dawn was just breaking. Far below me I could make out the heaving Atlantic, calm and peaceful. A long line of the huge second-line rafts just underneath, stretching north and south till it curved over the horizon. A bugle's clear notes came drifting up to me, reveille. Then I was hovering over my goal, raft 1264. The black rectangle was alive with activity unwonted at this early hour. I took over the controls from the mechanical pilot, sent my recognition signal and drifted downward.

The Zephyr settled on the raft with a soft hiss of the compressed air shock absorbers. A guard came hurrying up. My credentials passed upon, I alighted. Momentarily it was getting brighter. I was just in time.

I looked eastward, toward the enemy rafts. Beyond them, there it was, just as General Sommers had described it—a mountain of vapor, gleaming white in the gathering light. Not at all disquieting; merely a shifting, billowing cloud mass. Rather pretty. The rest of the sky was clear, unspecked.

As I gazed a line of red fire ran around the edge of the cloud. A violet glow suffused the whole, faded swiftly into pink. The sun was rising. Behind me I heard a huge whirring. Turning, I saw her, just rising, all the beautiful trim length of her. The *New York!* Pride of our air fleet!

Fifty paces to my right a little knot of officers caught my attention. I recognized Jim Bradley. I remembered, someone had told me he was a major, and was commanding a raft. Good. Jim would work with me as he had in the old days at Stanford U., when I coached the air polo team that he captained. I walked over.

Time for only a hurried handclasp. The signal corps sergeant, earphones clamped to his head, was intoning the airship's messages. "We have reached the thousand-foot level. Will now head for the objective. All well."

We watched her. She was through our barrage-line. A snapped order from Jim restored the barrier, momentarily lifted to let her pass. A curious shimmering blurred the ship's outlines. I called Jim's attention to it. "That's the new device, a network of fine wires, charged with neutralising vibrations. Worked like a charm in the tests. But there's no telling how effective it is in actual service.

A COLD shiver ran up my spine. Many a fine ship I had seen strike that invisible network of rays, and puff into smoke. Was that to be the *New York's* fate?

"We are about to pass through the enemy barrage. All well," came the sergeant's unemotional monotone, repeating the voice in his ears. I knew that voice was being listened to in Washington by a little group whose every shoulder bore the stars of high command. My thoughts flashed to them, gazing breathless at the screen that imaged the very scene before us.

My breath stopped. Now! She must be in it now. The next second would tell the tale. A faint coruscation of sparks ran along the network, but the craft kept steadily onward. Thank God!

"We have passed through the enemy first-line barrage. All well."

A faint whistling of released breath came from all about me. I was not the only one who had agonised at that moment. The first test had been passed; would the other be as successful?

"We are increasing our speed to the maximum. Objective dead ahead. All well."

I saw the ship fairly leap through the sky. Five hundred miles an

hour was her greatest speed. Another moment—

"We are entering the cloud. Bow is invisible. All—"

She was in it. She lurched. Plunged forward. She was hidden. I turned to the sergeant. Tremendous concentration was on his bronzed face. He reached out, twirled a dial in the set before him, and shook his head slightly. Twirled again. We were knotted around him, our faces bloodless. He looked up. "The last sentence was cut off sharp, sir. I can hear nothing more. Even the carrier wave is dead."

Jim ripped out an oath, snatched the phones, and clamped them over his own ears. Dead silence.

At last he looked up. "Nothing, gentlemen."

WE looked at each other, appalled.

Bradley handed the apparatus back to the sergeant. "Remain here, listening carefully. Let me know at once if you hear anything." The sergeant saluted.

Out there the white cloud billowed and gleamed in the sunlight. But there was something ominous in its calm beauty now.

A thought struck me. I spoke, and my voice sounded flat, dead. "Perhaps it's only the radio waves that are cut off. Maybe she's all right, fighting there inside, smashing them." But I knew that it was all over.

"God, I hope you're right. Five thousand men aboard her." Bradley's lips were white, his hands trembling. "Come to my office, Eric; we'll wait there. To your posts, gentlemen. Each of you will detail a man to watch that cloud bank, and report to me any change in its appearance, even the slightest."

We walked back to the concrete command-post. We didn't talk, though it had been years since we had seen each other. My brain was numbed, I know. I had seen plenty of fighting, watched many a man go to his death in the seven months since the war began. But this, somehow, was different.

An hour passed. Jim busied himself with routine paper work. At least he had that relief. I paced about his tiny office. Already I was making plans. Force had failed. Strategy must take its place. I must get in there. But how?

Bradley looked up from his work, his face grim. "No news, Eric. If you were right we should have heard something from the *New York* by this time. They're gone, all right."

"Yes, they're gone," I answered. "It's up to me, then."

HE stared in surprise. "Up to you? What do you mean?"

"Just that. I'm going in there, God helping." I made sure the room was shut tight against eavesdroppers. Then, briefly as I could, I told him of my orders, showing him the document I had received the day before. He shook his head.

"But it's impossible. Their ray network, and the undersea barrier, are absolutely solid here. I don't think even a mouse could get through. And even if you did get behind their lines, how on earth are you going to get into the area underneath that devilish cloud. You saw what happened to the *New York*, protected as she was."

"Yes, I know all that. Nevertheless it's got to be done." Just then I got the glimmering of an idea. "Tell me, Jim, are they doing much scouting here. Undersea, I mean."

"The usual. One-man shell, radio-propelled. We get one once in a while. Most of them, however, even if we do smash them, are pulled back on the wave before we can grab them. It's a bit easier than most places though: our depth's only about six hundred feet."

"What! Why, I thought the bot-

tom averaged three thousand all along the line."

"It does. But what would be a mountain ridge, if this were dry land, runs out from the mainland. We're over a big plateau here. It goes on east another twenty-five miles or so. See, here's the chart."

A warning bell seemed to ring somewhere within me. Had this peculiar formation of the ocean bed anything to do with the problem at hand? But I kept to the immediate step. My plan was rapidly taking shape in my mind.

"What are the scouts—black, yellow, or—"

"Russians, mostly."

"Good. Now listen, Jim. Send down word that the next scout-sub that caught is not to be ripped, but simply held against the attraction of the return wave. The television eye is to be smashed at once, and radio communication jammed. Can you do it as if something had happened to the shell?"

"Sure thing, but what's the big idea?"

"You'll see. I've worked the thing out now."

Just then a red light on Bradley's desk winked three times. "There's one between the lines now!" he exclaimed.

"Quick, man, shoot my orders down."

He pressed a yellow button and spoke quietly but emphatically into a mouth piece. "O.K. They understand."

"Now take me down."

He looked at me as if I had taken leave of my senses, but complied.

THE door of the elevator that lowered us from the surface clanged open. We stepped out on a balcony that ran around a large, steel-lined room. The walls were dripping, and on the floor, twenty feet beneath, a black pool sloshed about with the heaving of the raft, in whose interior we were. Rubber-clad soldiers moved about in the blue glow of the globes sending down their heatless light from the ceiling. One sat at a desk near the elevator. As I spied him a green light glowed in front of him twice.

"They've got him, sir, bringing him in."

A low-toned order. The soldiers sprang to their post. A whirring signal. At the other end of the room the steel wall began to move upward, and water rushed in. A tremendous vibration shook the chamber; a ponderous thudding. The water rose to the level of the balcony and stopped. I looked at Bradley.

"We're beneath the surface, aren't we?" I asked. "How is it that the water doesn't fill the room?"

"Pumps," he replied. "Tremendous pumps that draw the water out just as fast as it comes in, and shoot it out again into the sea. We can maintain any desired level in here."

Then I noticed that the black flood was rushing by beneath me at a terrific rate.

Something bulked in the opening. Two tiny subs drew in, a black and a green. The steel wall rushed down again, and the vibration ceased. From the green craft's heavy grapples extended, clutching the black, enemy scout. I saw a gaping hole in the black boat's nose, where its eye had been smashed.

Men were clambering over both vessels' hulls, tugging at the hatchway fastenings. The black one flew open. I leaped to the deck, Bradley after me, and jumped down into the hold.

In the little cubby-hole that was all the machinery left space for, a pale-faced form in green-gray crouched against the wall. His eyes stared in fear. A Russian, praise be. And not far from my size and build.

"Off with his clothes, quick!" I

yelled, stripping mine as I spoke. Bradley looked at me queerly, and shrugged his shoulders. "Quick, man! Everything depends on speed!"

He shook his head, as one who listens to the vaporings of an imbecile, but turned to obey. I was standing there naked, studying the Easterner's face, his body. No scars. Good.

JIM turned to me, the prisoner's clothing in his hands. An exclamation burst from him. He looked back at the trembling Russ, then at me. "My God, Eric, how did you do it?" he asked.

I smiled. "All right, is it?"

"You're his twin; no, you're himself! If I'd had a drink to-day I'd be sure I was seeing double. How on earth—you had no make-up, no time—"

I was sliding into the Red's gear as I talked. "I've trained all the little muscles in my face—muscles you others don't even know you have. Started when I was a kid, then made a good living at it, acting. Comes in handy now, damn handy. I can make anything of my face, and hold it forever if I have to. Chink, Russ—anything. Distort my limbs, too, and change my voice. That won't be necessary now. Simple, but it takes a lot of practice."

I was dressed by then, a counterpart of the enemy officer—I hoped. If I wasn't—well, I wouldn't live much longer.

"Now, out with the Russ and my clothes. Don't leave a bit, if you value my life."

A light of comprehension illumined Jim's face. "You're going to pass yourself off as this man? You've got your nerve with you!" he exclaimed.

"Exactly." The cubby-hole was clear now. "Now take that spanner, and bang me over the head. Not too hard; I don't want a cracked skull, only a splashed scalp. Then pile me where it will seem I crashed against a projection of some kind when the grapples took hold. That bunk edge will do. Batten the hatch, and cast off the grapples. I hope their automatic control is still working, otherwise my scheme's gaflooey."

Jim stuck out his great paw. "Good luck, Eric," he said, simply. Then he clutched the spanner. I saw it go over my head. . . .

VOICES around me, harsh, guttural voices. Russian! By the Nine Dogs of War, I had pulled it off! But what were they saying? I was inside the lines, but was my deception successful? Or had my face relaxed with the shock of the blow? I thanked my Russian grandmother then for all the time she had spent teaching me her mother tongue.

"*Boszhe moi*, the poor fellow must have had an awful smash. He hasn't come to yet."

"The doctor will be here in a minute. He'll revive him."

I breathed a prayer of gratitude. They didn't suspect! But I didn't like this doctor business. Well, I'd have to stall through that as best I could.

I seemed to be lying on hard rock. I opened my eyes, staring blankly, straight up. A bearded face was bending over me, the captain's crossed sickles on the shoulder straps just within my vision. Behind, and above him, towering straight up—my God!—what was it? A green wall, a vertical green wall, going up and up! It looked like—but no: how could water stand straight up like that, for hundreds of feet?

I almost betrayed myself with a gasp! A dim bulk showed in the translucent depths of the wall. It rushed toward me, took form. A fish, a huge, blind fish, its cavernous mouth stretched wide. It came

straight for me, just above. In a second it would leap through. A scream of terror trembled in my throat. Then it hit the edge of the translucent green wall—and vanished! Was I dreaming? Had Jim hit me too hard?

Something stirred in the back of my mind. I sensed dimly that here lay the explanation of the disappearance of the *New York*, the very mystery that I had come to solve. Almost I had it; then it slipped away.

"HERE'S the doctor!" someone said. There was a little stir of activity about me. I allowed my eyes to close, as if in utter weariness.

"What's all this? What have you got here?" A gruff voice, intolerant.

"One of our sub-sea scouts, sir. Just come back, after some delay. Her eye was smashed, and there are grapple marks on her. Must have been caught, and then slipped away. She was leaking badly. We got her through the lock just in time." Jim had evidently added a few touches of his own. "Comrade Pauloff seems to have been seriously injured. He's got a bad cut on his scalp, and was unconscious till a moment ago. Opened his eyes just as you came along."

"Hm. Let's see." I felt a none too gentle hand finger my wound. It throbbed maddeningly. The doctor spoke again. "A nasty crack, but no fracture. Here, you—wake up." I made no move. "Come on, wake up!" I heard the plop of a cork being drawn from a bottle; a pungent odor assailed my nostrils, choked me. I writhed, pulled at the hand holding the bottle to my nose and opened my eyes.

"That's better. How do you feel now?"

I raised a hand to my injury and muttered, in Russian, "Hurts, papashka." I kept my expression as blank, as uncomprehending, as I could.

The doctor flashed an understanding glance at the captain, then turned back to me. "What's your name?"

Memories of my grandmother's tales of her youth came flooding back to me. "Pavel, son of Pauloff." It was the formula of the Russian student, in his teens.

"Your rank?"

"Second year. Petrovski Gymnasium."

The physician turned away. "No use bothering him now. A clear case of amnesia.

"He's been thrown back to his high school days. I've had a number of cases like that among your scouts lately." Blessed inspiration! "Only cure is rest. Get him over to the infirmary. We'll evacuate him to a base hospital to-morrow."

I WAS in a cool white bed, in a low ceilinged room, white painted. There were other beds, vacant. A uniformed male nurse puttered around. There was an elusive green tinge to the light that poured in through the one window.

The door opened and a sergeant came in. "Comrade Alexis!"

"Well, what is it now? Have they found another gold-bricking officer to mess up my clean beds?"

"A party from corps headquarters will be here in fifteen minutes for inspection."

"Let them come. They won't find any specks of rust on *my* instruments, like they did on Comrade Borisoff's."

"They'd better not. You know what happened to him."

"Yeah. Chucked into the ray. Well, *he* didn't give the burial squad any work." And the two laughed, a laugh that had more than a hint of sadistic cruelty in it. "If I had my way," the nurse went on, "I'd do the same with all these

nuts that come back from the scout ships raving of home and mother. It's my idea that they're all bluffing. It's a good way to be shipped to the rear, where the captured dames are. Say, did I tell you about the last time I was on leave—"

The two whispered, their heads close together. My brain was working frantically. Things had gone well so far, but I had to get out of here before the morning, or I'd be sent to the base and lose all that I I had gained by my daring.

The door snapped open. "*Smirnow!*" (Atten-*shun!*)

I WAS on my side, facing away from the wall. I remained so, staring blankly across the room. I hoped the inspection would be over quickly. The fewer the enemy officers I had looking me over, the better. Someone back there was snapping questions. That voice—where had I heard it before?

"Your patient. What's his trouble?"

"Amnesia, sir. One of the scouts."

"Oh, yes. Let's look at him."

Someone was walking across the room, then standing above me. His hand was just at the level of my eyes—a hand with the little finger twisted queerly into the palm. I knew that hand: it was the *Ferret's!* A cold shiver ran up my back. I almost stopped breathing.

Of all the infernal luck in the world, to have the Ferret walk in here! He was chief of the Red's Intelligence Service, the shrewdest, sharpest, cruelest of them all. Many of our best men had gone west because of his uncanny instinct for piercing disguise. They said he could *smell* an American. And many of our most strictly guarded plans had been smashed through his infernally clever spying. Only a month before I had him in my clutches; saw the very rope around his neck. But he had slipped away, and left me empty-handed and kicking myself for an ass.

I held my breath as I felt those gimlet eyes of his boring into me. Would he sense who I was? Surely he could hear the pounding of my heart. How long he stood there I don't know. It seemed like hours. I tautened, waiting for him to call out, determined to sell my life as dearly as I could.

But for once the Ferret was fooled. He turned away. "Take us into your kitchen," he snapped at the nurse, then there was the tramping of feet and the slamming of a door.

THE breath whistled from me in relief. I turned cautiously. I was alone. Now was my chance. I jumped from the bed and started toward the window. Once out, I'd find some place to hide. I let my face relax; there was no use for that particular disguise any longer. The window was up. I was on the sill. Another second and I'd be out in the open.

"Just where do you think you're going?" came the Ferret's silky, cruel voice. I whirled. There he was, just inside the door. His little black eyes glinted dangerously over his hooked nose and sharp chin.

"Oh—Bolton! Something made me turn back. Glad to see you."

His hand flashed to the ray-tube in his belt. At the same moment I left the window sill in a desperate leap. Clear across the room I sprang, and before he had time to pull his weapon I had one hand clamped around his wrist, the other clutching his throat. We crashed to the ground.

I was in pyjamas, barefooted, he fully clothed. His leather shoes drove into me viciously, even as his face turned purple. The pain was excruciating, but I dared not cry out. His left thumb found my eye, was digging in.

The crash of our fall must have been heard outside; another moment and all would be lost. I was momentarily on top as we rolled across the floor. With a supreme effort I pulled his head away from the floor, then crashed it down. He slumped; lay still.

The door knob was turning as I jumped frantically through the window. I heard a cry behind me. Rough, uneven ground. No one about. To my right was a rocky cliff, and at its base what looked like the mouth of a cave. Any port in a storm: I dived into it.

It was a cave, all right, or rather a narrow tunnel winding some distance into the cliff. I ran back at top speed, till I crashed into the end of the passage.

I CROUCHED there, panting. It was beastly cold, and the dampness struck into my bones. I shivered, then laughed grimly. I wouldn't shiver long. When the Ferret came to and revealed that Eric Bolton was around, there wouldn't be a stone left unturned till I was found. Those birds had good cause to want me rubbed out.

Already I could hear faint shouts from without. The chase was on. I was caught, right enough. Trapped like any rat.

I felt around me in the darkness and my hand lighted on a round stone. It just fitted my fist. Well, I'd get *one* of them, anyway, when they found me. Cold comfort in that, but I didn't feel like giving in tamely.

Footsteps sounded out at the tunnel end. So soon! I gripped my rock tightly, and waited.

But—it sounded like only one man. I drew myself together. Maybe I had a chance. A dim glow showed where the passage curved, then a disk of light flashed on the wall and flitted about. The fool!

The steps came on, slowly, stumblingly. The disk of light grew smaller as its source drew nearer. Then he was around the corner, bulked for a moment against his own light as it was reflected from the wet wall. That moment was enough! The stone left my hand with all the force I possessed. It went straight to its mark: a sickening thud told me that. The form dropped, and the flashlight clinked on the rocks.

I listened. Still the shouts from without, but no steps inside. I was safe for a time. But the searcher would surely be missed, and others would come looking for him. I had only one chance. I shrugged my shoulders. I couldn't lost anything. If I stayed here my goose was cooked.

By the light of the flashlight I examined my quarry. A renegade Frenchman, apparently. A private. In a trice I had his uniform on me and had twisted my features to match his. Little did I think when I acted under the Klieg lights that the fate of two continents would some day depend on this gift of mine.

He stirred; groaned. I hesitated. Then—well, I couldn't chance his crawling out. His ray-tube was newly charged. I left a heap of ashes there as I walked away. . . .

I WAS outside the cave. I darted a glance around. My refuge was not the only hole in sheer rock; it was literally honeycombed. From one, then another of the cavern mouths a soldier emerged. Each strode across the uneven, rocky plain to where an officer stood with what was apparently a map in his hand. As each searcher saluted and reported, the officer made a mark on the map. Someone came out from the cave-mouth next to mine. I fell in behind him.

"No one in cave twenty-one, sir."

"To your post."

The private turned on his heel and

matched off to take his place in a company formation that was rapidly taking shape near by. My turn was next. What was the number of my cave? A mistake now, and I was through.

I saluted. "No one in cave twenty, sir."

"To your post."

Had I hit it? When the final check-up came would there be two reports for one cave, none for another?

A front rank man moved aside. Good; that meant my place was just behind him. My luck was holding. And never did a man need luck more!

Now was my first chance to look about, to discover what sort of place this was. It was an oval plain, roughly a mile wide by five miles long. Buildings, squat structures of corrugated iron, were scattered here and there. In the distance, to my left, what seemed a great hole in the ground glowed; a huge disk of light.

Dry land, here, where there should be nothing but a waste of waters!

PUZZLED, I strained to see what bordered the plain. It was a tall cliff, running all around, and towering high in the air. But it wasn't rock, for it glowed strangely green in the flood of light that illumined the place. And it was clean cut, rising sheer from the unevenness of the ground.

Then I remembered. The vertical green wall that soared above me as I lay dazed from Jim's blow. The translucent green wall in whose depths I had seen the blind fish rushing toward me. Water! The sea! Impossible! There were scientific miracle-workers in the enemy's ranks, but they couldn't have hollowed out a pit such as this in mid-ocean; forced back the very ocean to create this amphitheatre, this dry plain on the Atlantic's very bottom; held back the unthinkable weight of Earth's waters by a nothingness. Incredible!

Yet the accomplished fact stared me in the face.

My eyes traveled up that impossible wall. It must have been at least six hundred feet high. At its summit, in a murky haze that heaved and billowed, I made out strange, dim bulks that hung, unsupported. A long line of them, a long ellipse following closely the curving of the cliff. Underneath the nearest, barely perceptible, I could make out a lens-shaped cage of wire. I began to understand.

Overarching everything was a great dome of heaving cloud.

"Smirn-ow!"

The long line snapped into immobility.

"By the left flank, march!"

We were moving, marching. Then my ruse had succeeded. I had chosen the right cave number. I breathed a sigh of relief.

THE command for route order was given, and at once a buzz of talk broke out around me. "Damn them, they're sending us right off to work! We missed our mess, hunting for that damned spy. But that don't mean anything. It's back to the tunnel for ours."

"Oh, quit your bellyaching, Andreyeff. Another week, and we'll be in New York. Just think of it, the richest city in the world to loot! And women! Why, they tell me the American women are to the Frenchies and the cold Englishwomen as the sun is to the stars. What's a meal more or less when you think of that?"

An obscene laugh swept through the ranks. Guttural voices boasted of past exploits—black deeds and sadistic cruelties that had marked the trail of the hordes sweeping over Europe from the windy Asiatic steppes.

As we marched, I noticed a peculiarity of the rocky floor. There were no sharp edges, no sudden cleavages in the uneven terrain. It looked, for all the world, as though the stone had been melted, then frozen again in a moment. An unbelievable pattern was forming itself in my mind. If what I thought were true—!

The command came to halt.

We had reached the blazing disk I had seen from afar. It was a tremendous shaft, dropping straight into the very bowels of the earth. Two hundred feet across, a blinding glare streamed up from the pit. From far beneath came shoutings, the clank of machinery, a growling roar.

Other companies marched up and halted at the pit edge. My outfit were whites—Russians, French, Germans. But the others were black, brown, yellow—all the motley aggregation of races that formed the Red cohorts, the backbone of the Great Uprising. As the "At ease" order snapped out a babel of tongues rose on the air. Every language of Earth was there save English. The Anglo-Saxons had chosen tortured death rather than submission to the commands of their conquerors.

A huge platform rose slowly up in the shaft and came to a stop at the ground level. It was solidly packed with another throng of soldiers in the gray-green of the enemy. They marched off and we took their place.

DOWN, down, we went, till it seemed that our destination was the center of the earth. Louder and louder grew the growling roar, the ponderous thud and clank of huge machines.

We were in a huge chamber, hollowed out of the solid rock. Thousands of men bustled out among great piles of lumber and steel rails. Huge cranes rolled here and there, swinging their ponderous loads. Officers shouted crisp orders. Green-uniformed privates sprang to obey.

But no time was given me to get more than a glimpse of all this activity. From out the gaping mouth of a hundred-foot-wide tunnel a long train of flat cars came gliding. It halted and swayed on the single rail, and the whir of the gyroscopic balancers filled the cavern. A sharp order, and my companions leaped for the cars, lay prone on the steel car-beds, and passed their belts through projecting loops. I wondered, but imitated them. I buried my face in my arms, as the others were doing.

There came the eery shriek of a siren: the train was moving. Swiftly it gathered speed till it seemed as though my protesting body was being forced through a wall of air grown suddenly solid. Myriad fingers pulled at me, seeking to hurl me to destruction. Even through my protecting arms my breath was forced back into my lungs, choking me. The wind howled past with the wail of a thousand souls in torment.

Just as the limit of endurance was reached the terrific speed slackened, and the long train ground to a halt. "All off! Lively now!" came the command.

WE were at the rail-head, and before me was the face of the tunnel. Queer, hooded figures were there bending over wheeled tripods, manipulating what appeared to be searchlights. But no shafts of light leaped from the lenses. The tripods were rolling steadily forward.

I looked at the tunnel face again, then, startled, back to the hooded men. I rubbed my eyes. Was I seeing things? No, by all that was holy, it was so! The distance between the machines and the end wall of the passage had not changed, but men and rock were ten—fifteen—twenty feet away! They were bor-

ing; boring into the solid rock at tremendous speed. *And the rock was melting, vanishing, disappearing into nothingness in the awful blast projected from those machines!*

I gaped—my pose, my danger, forgotten. Almost as fast as a man could run, the tunnel extended itself. It was phantasmal, incredible!

A rough hand seized me from behind. I whirled, my heart in my mouth. It was the burly sergeant. "What the hell are you dreaming about, Renaud? Hop to it. Over there, on that shoring job. Get busy now, or—" The threat in that unfinished sentence chilled me by its very vagueness.

My squad was hauling heavy timbers, setting them up where a fault showed in the rocky roof of the tunnel. I joined them but my thoughts were a madly whirling chaos.

The pattern was complete now. The long, curving under-water ridge on Jim's chart—this tunnel was boring through it. Whatever it was that those tripods projected—a new ray it must be—it was *melting* a passage six hundred miles long. Under our rafts, under our fleets, under our coast defenses—to come up far behind our lines. The ridge joined the coast just south of New York. Some night, while our generals slept in smug complacency, all that gray green horde of wolves would belch forth from the very earth.

And the Americans would follow Europe into hell!

FIVE minutes passed. I looked again at the face of the tunnel, drawn by an irresistible fascination. It had advanced a full quarter of a mile. Like fog before a cloud-piercing searchlight, the age-old rock was dissolving before the ray. At this rate America's doom would be sealed in a week. And I, alone among these thousands, was helpless to avert the climaxing menace.

A howl of rage came from the sergeant. I turned. A diminutive German, his face pale green with fatigue, had stumbled and fallen under the weight of a heavy timber.

The swarthy non-com was kicking him with a cruel boot. "Get up, you; get up before I brain you!"

The sprawling man looked up, fear staring from his deep-sunk eyes. *"Aber, ich bin krank"*—"I am sick; I can't stand the work; it is too *schwer*, too heavy," he faltered.

"Sick?" the Russian roared. "Sick? I'll sick you! You're lazy, too damned lazy to do a little work. I'm tired of this gold-bricking around here. I'm going to make an example of you that the rest of you dogs won't forget in a hurry." His face was purple with rage. He bent, seized the fallen man and dragged him out from under the crushing bulk. Then, raising the struggling wretch over his head as lightly as though he were an infant, he ran forward, toward the ray projectors.

Shriek after shriek pierced the hot air, such howls of utter fear and agony, as I hope never to hear again. The little figure, high held in the huge paws, writhed and tossed, to no avail.

The sergeant reached the nearest tripod. His brawny arms flexed; straightened. The German swept up and over the head of the operator, and dropped in front of the machine. Then—he vanished. Nothing, absolutely nothing, was there between projector and rapidly retreating wall!

A horrible retching tore my stomach; I swayed dizzily. The utter brutality, the finality of the thing! "And any more of you carrion that I catch slacking will get the same thing," the Russian said. "You, Renaud, I've got my eye on you. Watch out!" The sergeant's voice rasped through the mist about me. I shoved my shoulder under one end

of an eight by eight and plunged into the back breaking labor. But one thought hammered at my reeling brain: "The *New York!* That's what happened to her!"

THE long hours of toil at last ended. We were again in the entrance cavern, waiting for the elevator platform. It was unaccountably delayed: the last batch had gone up fifteen minutes before. The men about me chafed and swore. They were impatient for mess and bed.

Bit by bit I had reconstructed all the elements of this unprecedented operation. The ray, the blasting ray that whiffed into non-existence all that it touched, was the keynote. The great plain had been cleared by the ray. The dim shapes floating high in that far-circling ellipse were pouring down the dreadful vibrations, thus holding back the sea in a marvelous green wall. I remembered the sea-monster that had dashed at me and vanished. That proved it. The dome of cloud was camouflage, or the product of the processes of destruction going on underneath: it didn't matter. What mattered was that it was interlaced by a network of ray beams. It was an impenetrable wall, a perfect defense. Boxed in on all sides by such a barrier, how was I to get out word of the menace? How was it to be combatted even if our forces knew of the danger? A hundred plans flooded my wearied brain, to be rejected one by one.

A mocking, ribald cheer arose from the men around me. The platform was ascending. Why the long delay? A premonition of disaster chilled me. I shrugged it aside.

We were at the top. A long line of soldiers curved about the mouth of the pit. The next shift waiting to go down? No—they made no move to approach. And each one was holding his ray-tube at the ready. This was the guard. At a table nearby a knot of officers was gathered. Papers of some sort were piled high on it. Again the icy finger of dread touched me. One of the officers moved aside, revealing the profile of his companion. The Ferret. Then I knew I was done for!

My eyes darted here and there, seeking escape. No hope—the heavily armed guard was all around; the platform blocked the shaft mouth. A dash would be self-betrayal—suicide.

MECHANICALLY I obeyed the sergeant's barked commands. We were in single file. We were moving toward that ominous table where the Ferret stood, a sardonic smile on his sharp-featured face. I could make out a livid weal across his throat. I had left my mark on him. That was some satisfaction.

The head of the line reached the table. They were fingerprinting the leader! A lieutenant extracted a paper from the pile and handed it to the Ferret. He made momentary comparison of something on the paper with the mark the soldier had just made. Then the next man stepped up, while the first made off across the plain.

Of course! Simple; how very simple! And yet it had caught me! The service records of the men had their fingerprints, just as in our own forces. And each man in the area was being checked up. Trust the Ferret to think of that. He knew that I'd be somewhere in their ranks, impersonating one of their men. Well, I was in for it. The last trick in our long game was his.

My turn. No use going through the motions. I bent down a momoment, then straightened. "Oh, hello, Bolton," the Ferret said, thrusting out his hand, the one with the twisted finger. I had resumed my own visage. "Didn't think you

could get away with it, did you?"

Chagrined as I was, I put a good face on it. The Ferret and I had run up against each other many many times. Cheerfully, either of us would have cut the other's throat. But—we played the game.

"Hello, Rubinoff," I responded. "You seem to have me, just now. But try and hold me."

The Ferret threw back his head and laughed. "Oh, I think you'll find it a little difficult to get away this time." I thought so, too, but did not voice my thought.

The smile left Rubinoff's face. He snapped an order. A squad advanced from the guard. Handcuffs clicked around my wrists, the mates of each were fastened to the arms of two guardsmen. I was securely chained. They were taking no chances.

"Take him to the special cell in the guardhouse." The lieutenant saluted. I was marched off. Then I was not to be summarily executed. I was not as much relieved as you might think. You see, I knew the Ferret. We had raided one of his hangouts once; just missed him. But we found an M.I.S. man there whom Rubinoff had been—questioning. We thanked God when he died.

WE tramped across the plain. My eyes kept roving about: there wasn't much hope for me, but miracles *have* happened. Most of the scattered structures were hastily thrown together sheds of sheet iron. Barracks, they looked like. But, every so often I spied spheres of concrete, the wide open doors revealing yard-thick walls. What could be their purpose?

Something bothered me. Something about the ray projectors and the other machinery I had seen. I glanced up at one of the balloons floating high above. All these needed a power supply; tremendous power to accomplish what the ray was doing. And there were no cables running to them. How did the power get to them?

There was only one answer. Radio transmission. The required energy, perhaps the very ray vibrations themselves, were being broadcast to the points of projection. That meant a power-house and a control room somewhere in the area. *The vulnerable points!* Where were they?

I stumbled, and was jerked roughly to my feet. The lieutenant slapped me. "Scared, Americansky? You well may be. We'll have rare sport when they throw what the Ferret leaves of you into the ray." I shuddered. To go out that way! I'll be honest—I was horribly afraid. The men to whom I was shackled laughed.

A dull throbbing beat at my ears, a vibration just too low to be sound. I looked about for its source. It came from my left—a concrete building, low lying, about a hundred yards long by as many feet wide. At the further end a squat smokestack broke the flat line of the roof. Guards, many guards, were pacing their slow patrol about it. From the center of the side nearest me, cables thick as a man's trunk issued forth. I followed them with my eye. They ended in a marble slab on which rested a concrete sphere, somewhat larger than the others. The door of this one was closed. On the roof of the queer edifice was a peculiar arrangement of wires, gleaming in the artificial daylight. This building, too, was heavily guarded.

I had found what I sought—the power-house and the transmitting station. Much good it did me—now.

MY warders turned sharply to the right. I glimpsed another concrete structure. A heavy steel door opened, then clanged shut, behind us. The fetid odor that

means only one thing the world over, folded round me.

I sprawled on the steel floor of the cell into which I was thrust. A wave of utter fatigue engulfed me. I felt great weariness of body and despair of soul. I had failed in my mission. The fate of my country had been entrusted to me—and here I was in a steel-floored, steel-walled prison cell. And that tunnel was rushing toward New York at three miles an hour; over seventy miles a day.

I think I slept from sheer exhaustion. But something startled me into awaking. The dim light filtering in from the tiny air-hole high up on one wall showed me that I was still alone. I lay, listening. There it was again, a wailing scream of agony that rose and fell and died away.

I heard a grating sound at the door, and it opened and shut. Rubinoff, the Ferret, had entered. "Comfortable, Captain Bolton?" he asked, and there was more than a hint of mockery in the velvety voice. In the hand with the twisted finger was his ray-tube. It pointed steadily at me.

I got to my feet. I was in no mood for trifling, for that scream had shaken me. "Cut the comedy, Rubinoff," I growled. "Kill me, and let's have done with it."

He raised a deprecating hand. "Oh, come now. There's really no absolute necessity for that. You can save yourself, very easily."

What do you mean?"

"I can use you, if you're amenable to reason."

"I don't understand."

"You're the cleverest of the American Intelligence men. The rabble they give me are well-nigh useless. Cast your lot in with us, and in a week you'll have the riches of your greatest city to dip your hands in. It's easy. There is certain information we need. Give it to us. Then I'll get you back into your lines: we'll cook up a good tale for Sommers. You can resume your post and send us information only when it is of extreme importance. Come, now, be sensible."

AT first blush this was an astounding proposal. But I knew my man. He needed to know something. Once he had extracted the knowledge he sought from me, I should be disposed of. He'd never let me get back into our lines with what I had found out. It might have been policy to play him—but what was the use?

"No, Rubinoff. You know I won't do it."

He sighed. "Just as I thought. Honor, country, and so on. Well, it's too bad. We should have made a wonderful team. However, you'll tell me what I want to know. What are the defenses within fifty miles of New York?"

I laughed derisively.

"You'll save yourself a lot of trouble if you tell me, Bolton. After all, death in the ray isn't so bad. Whiff—and you're gone. Don't force me to other measures." There was a grim threat in his voice. But I simply shook my head.

"Stubborn, like all the other Anglo-Saxons. Well, I've got something to show you." He raised his weapon and glanced at it. "Pretty little thing, this. Not the ordinary ray-tube. Only field officers have these. Look."

He pointed it at the wall from behind which that scream had come and pressed the trigger button. A tiny round hole appeared in the steel.

"Neat, isn't it? Utilizes the same ray you saw at work in the tunnel. The Zeta-ray we call it. Just think what that would do to human flesh." I said nothing.

"But that isn't what I had in mind. Just look through that hole."

I WANTED to see what was on the other side, so I obeyed. The Thing that lay on the floor within —could it ever have been a man? I whirled back to the Ferret in a fury, my fists clenched.

His infernal weapon was pointing straight at me. "Softly, Bolton, softly. "You'd never get to me." I checked my spring, for he was right. "How'd you like that?" he purred.

"Some of your work, I suppose," I growled.

"The poor fool was fomenting a mutiny. We wanted to know the other plotters. He was stubborn. What would you? Necessity knows no law . . . What are the defenses around New York?" He advanced menacingly.

No answer.

"Why be a fool? This ray hurts, I tell you, when it's properly applied. How would you like to be melted away, piece by little piece, till you're like that in there?"

I shrugged my shoulders, but kept silent.

"I tell you it hurts. You don't believe me? That in there is unconscious, seven-eighths dead. Listen."

He bored another hole in the steel, keeping his finger pressed on the trigger. Again that heart-rending scream of agony rang out, tearing its way through me. My brain exploded in red rage. I leaped for the fiend, reckless of consequences. My fist drove into the leering face with all the force of my spring, with all the insane fury that his heartless cruelty had roused in me. Smack!—he catapulted across the floor and crashed into the wall! I was on him, my hand clutching for his tube. But there was no need. He was out—dead to the world. So sudden, so unexpected was my mad attack that even he had not had time to meet it.

I worked fast. In a minute I was in Rubinoff's uniform and had assumed his face. I was a little taller; no matter. But the finger—that would be noticed immediately. There was only one thing to do. I stuck my little finger through one of the holes he had made in the wall and twisted. Crack! Beads of agony stood out on my forehead, but the break was just right. By bending the other fingers slightly I could hold that one in just the position of his.

I picked up the ray-tube with my left hand. If I went out through the guard-house entrance I might meet other officers and be engaged in conversation. That might lead to discovery. My cell was on the side of the prison away from the road; I had noticed no buildings behind it; I'd chance it. Luck had been with me so far.

I CARVED out a hole in the wall pierced by the air-hole. It was like cutting through butter with a red hot knife. I stepped out.

There was no one about. I walked carelessly around the corner of the building, my hand, holding the tube, buried deep in my pocket. Not far away was the spherical structure I had spotted as the control room. I returned salutes. No one stopped to talk to me. Would the guard before that building require a password?

I heard a shout behind me. My escape was discovered! At once I broke into a run and dashed past the guard, shouting: "Prisoner escaped! Came this way!" The man gaped. The shouting behind me grew louder. I heard the thud of many feet, running. I flung open the door, slammed it shut behind me, and turned the key.

A long row of giant electrode bulbs, as tall as a man, stretched before me—the source of the Zeta-ray. From here came the power that held back the waters, that bored the tunnel. A thunderous knocking shook the door. Someone at a huge switchboard turned toward me. Instantly

my hand was out of my pocket, and the ray-tube leveled at the nearest bulb. I pressed the trigger. The bulb crashed. I swept down the line. Crash, crash, crash—they were all gone.

I whirled to meet the expected attack. It was wholly instinctive, for in a second we'd all be dead anyway. The waters would be down on us.

But the switchboard operator wasn't springing at me. Instead, he was tugging frantically at a long lever that came down from above. There was a clang, and a steel shutter dropped across the door.

THEN came a sound of crashing thunder that split my eardrums with its unbearable clamor. Then a mightier roar, as the mountain-high sea, held back so long by the invisible ray, poured its countless millions of tons of deep green water down into the man-made hole.

The impact was terrific. The yards-thick concrete shuddered and strained. The tremendous pressure forced trickles of water into the concrete shell; the roaring of the elements was indescribably deafening.

I was in pitch darkness, expecting every moment to be crushed under miles of ocean, when suddenly I was thrown from my feet. The floor was heaving drunkenly beneath me. In a moment I was slammed breathlessly against the shattered remnants of a huge vacuum tube. The jagged glass slashed my arms and face. I grabbed with my hand to steady myself; came in contact with an iron bar; clung like grim death.

For a huge concrete sphere was whirling, tossing, gyrating in a welter of waters. The din was terrific. I rolled over and over, my arms almost pulled out of their sockets. Then, like a ton of brick, something collided with my head. There was a blinding flare in the black void, and I knew no more.

SLOWLY I came out of a hideous nightmare.

My head ached frightfully, and my wounds smarted and stung. It was dark, but a faint luminescence from somewhere enabled me to faintly discern my surroundings. I was wedged between a steel cable-bracket and the curving wall. Across the glass strewn floor a body lay, sprawling queerly.

The room was swaying in long undulations, or was it my head? I lay helpless, unable to move. A leg dangled uselessly. There was a bump, the sound of scraping. I heard confused sounds penetrating the walls, and the jar of steady impacts.

A half an hour passed so; maybe an hour; I had no means of telling. I was weak from pain and loss of blood, and slightly delirious.

A faint whirring noise, a sudden intensity in the illumination caused be to turn my head. The steel shutter was glowing red, then a shower of white sparks broke through. The heavy steel was melting away into incandescence. It crashed.

A group of men stumbled cautiously in. Now I was sure I was delirious. For the men wore khaki uniforms! Americans! Then, in my fever, I thought I heard a familiar voice cry out my name. It was Jim's voice. A roaring curtain of blackness shut down on me.

WHEN I awoke again I was lying in a clean-sheeted hospital bed. Jim was sitting at the side, staring at me with gloomy eyes.

"Hello, Jim," I gasped weakly. "How did I get here?"

It was touching to see the instantaneous delight on his weathered countenance.

"So you came to at last, you old son-of-a-gun! Thought you were cashing in on us, for a while. How did you get here? That's just what

I want to know. How in hell *did* you get here?"

I was still pretty weak. "You pulled me out. What happened?"

"We're still trying to puzzle it out. Wouldn't be surprised if you had a hand in it, you blighter. We were watching that damned cloud, worrying ourselves to death. What with the *New York* going out like a light; and not hearing anything from you, we were pretty low.

"Then, suddenly, there was a tremendous detonation. The whole cloud mass collapsed like a pricked bubble, and a bottomless pit yawned underneath the ocean—and, next thing we knew, our raft was yanked from under our feet, plunging and bucking in a swirl of waters.

"I just had time to grab hold of a stanchion, when we were sucked down into a whirlpool such as I never hope to see again. Round and round we spun, the tumbling waters mountain high above us. I was buried most of the time in crashing billows; my arms were almost pulled out of their sockets.

"I NEVER expected to see daylight again," Jim went on. "My hold was being broken when at last we were spewed out somehow onto a sea that looked as if a thousand hurricanes were blowing down.

"I managed to get my men together—what was left of them. There were pitifully few. Later, I heard that our losses were enormous. Over seventy-five per cent of our rafts on a 50-mile front were lost, and the enemies' were almost totally wiped out.

"When the mile-high seas had toned down a bit, we saw a huge concrete ball tossing about like a cork. Couldn't make out what the devil it was. Then someone noticed a door. We got that open, but there was a steel one inside. We had to slice it with an oxy-hydrogen flame. Inside, snug as a bug in a rug, were you.

"Now come on, tell me how in blazes you got in there. If you don't spill it quick, I'll bust."

I sat up in my excitement. "Don't you see, they were afraid the ray might fail. They had those concrete balls stuck all around so that the officers at least could escape, if it did. Their best technical men must have been running the control room. They made sure to have that specially strong. And the wave caused by the water pouring into the hole swept me right over here, just where I started from."

Jim had both hands on my shoulders, was pushing me down. "Whoa, baby, whoa. That's just as clear as a darkness-rayed area. Count up to ten, and start all over again."

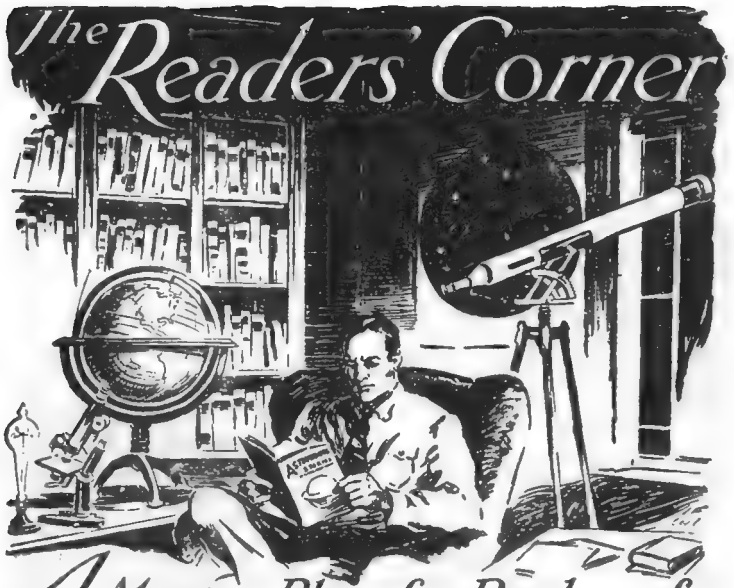
"'Ten-*shun!*"

The general himself strode into the room. And then I *had* to tell my story straight.

A BEE'S BREATH

THE breath of a bee, important because of its indication of the health of the insect in winter and of the efficiency of the sweet-producing hive in summer, was recently measured by Prof. G. H. Vansell of the University of California. To do this he conducted the air coming from the hive through a tube into bulbs containing absorbent chemicals. Allowing for the natural carbon dioxide and water of the outside air, he weighed these bulbs, getting an analysis of the breath of the hive by the amount of water vapor and carbon dioxide the chemicals in the bulbs had picked up.

He found that in winter when the bees were inactive the average hourly water loss from the entire hive was thirty-six millionths of an ounce. In summer when the insects were hard at work making honey and gathering nectar the water loss was twenty-five times as great. The carbon dioxide output, however, did not even double in summer.



A Meeting Place for Readers of Astounding Stories

And That's That

Dear Editor:

May I have just a little room in "The Readers' Corner" to answer Mr. Meek's argument and defend myself from the charge of hasty reading? You will remember that I did not write my letter immediately after the publication of the first Heaviside Layer story, but waited until the appearance of the second, a "cooling-off" period of three months. In that time I re-read the story and considered it at length. I don't call that hasty reading. Besides, the flaw in the story is so obvious that even a "hasty" reading should suffice to find it.

I can't argue about the matter of meteors because Mr. Meek has not given any figures concerning the density or viscosity of his medium. But I can say that to my way of thinking any astronomer could detect the effect of such friction on the action of meteors. They should certainly be consumed much more rapidly than if they merely struck thin air.

That, however, is a minor point and I wouldn't even mind conceding it to Mr. Meek. The point I now wish to make is much more important and in my mind establishes the falsity of Mr. Meek's premises. In the July issue of Astounding Stories, page seven, paragraph four, sentences fourteen and fifteen, he states that the Heaviside Layer is composed of a liquid of high viscosity. By definition a liquid is more dense than a gas. Therefore the Heaviside Layer, according to Mr. Meek, is denser than the atmosphere of the earth since the former is a liquid and the latter is a gas. The increased refraction of light as it entered our atmosphere would then be noticeable. Astronomers can even now detect refraction due to the air. The sun remains visible for some time after it has actually descended below the horizon, due to refraction. If there was a denser substance than air surrounding the earth the refraction would be much greater. Finally, how could the atmosphere support a denser substance like the Heaviside Layer? I'd sure make for cover if I really believed that such a menace existed right over my head.

Sorry to take up your space so much by an argument, but your comments on my letter really called for a defense. Hope you can find room for this.—Philip Waite, 3400 Wayne Ave., New York, N. Y.

Dear Editor:

Since Mr. Waite has so generously admitted the validity of my answer to his criticism as regards meteors, I can do no

less than admit that he scores one against me in his second argument. I used the word liquid. It was careless diction. Had I used the phrase "composed of a SUBSTANCE of high viscosity, of low specific gravity and with a coefficient of refraction identical with that of air," there would have been no argument. I am sure that Mr. Waite will admit after reflection that such a substance could be held in position, if its specific gravity were low enough, by a combination of gravity and centrifugal force, somewhat in the same manner as the ring of Saturn is held in place. Of course, any idea that the layer rested on the air and was supported in place by it, would be untenable. As I said in my previous letter, I don't believe such a layer exists. If it does, I hope that no one proves it before I get some characters off on a space flyer for an interplanetary adventure or two.—S. P. Meek, Capt., Ord. Dept., U. S. A.

Right from the Shoulder

Dear Editor:

I know for a fact that Astounding Stories is the best Science Fiction magazine on the stands. I have read it every issue except the first three, and have not yet found a bad story. The characters in other Science Fiction magazines seem like machines, but Astounding Stories' characters seem like intimate friends. Why do —— [censored] like some write in and start bellyaching about the cover, pages, the size, the edges and many other things that no one but —— [censored] would notice? If they know so much why don't they start a magazine and put all other publications out of business? If they liked the stories they would not care if the color of the cover was black or red, white and blue. I get so interested in the stories that the edges of the paper do not amount to anything; and people that bellyache about such minor things prove that they do not care for the stories, and furthermore they prove that they are —— [censored] and —— [censored] ready for the booby hatch.

There is only one thing wrong with the perfect magazine: it does not come out twice a month. I have never known a bunch of Editors that have the intelligence of the Staff of Astounding Stories [uncensored—Ed.]. They have never published a single story that any intelligent Reader could kick about.

About reprints: whether the Editors think that they should publish some or not, it is all the same to me, as they know what they are doing. I should like very much to see some stories by Burroughs, though.

If I were to name your best authors, I would have to name every one that ever wrote a story for your wonderful magazine.—H. N. Sager, R. F. D. 6, Box 419, Bessemer, Ala.

Disposing of Old Stories

Dear Editor:

I have observed that numerous readers request reprints. I have a collection that goes back to 1900! Since I have no more use for them, I have decided to dispense with them. Here is an infinitesimal list:

A. Merritt: "Thru the Dragon Glass," "The Moon Pool," "The Metal Monster" and "The Ship of Ishtar."

Homer Eon Flint: "Out of the Moon," "The Planeteer," "The King of Conserve Island," "The Blind Spot" and "Flint and Hall."

Jules Black: "Beyond the Earth Atom" and "Marooned in Space."

John Louis Hill: "The Dimension Wizard" and "The Challenge from Beyond."

Davidson Mortimer: "Lost in Time" and "The Amazing Empire in Time" (sequel to story previously mentioned).

Booth Langell: "The Moons of Lanisar."

As I said before, this it but a small part of the Science Fiction stories I have. Anyone desiring stories mentioned above, or any others, please write to me.—George Zambock, 459 E. 185th St., New York, N. Y.

A Kind Offer

Dear Editor:

I'm sure you will sympathize with me for reading your magazine in study hall.

It is so very dull—I have three S. H.'s in a row—that I have to do something to relieve the monotony, so, seeing the latest copy of A. S. at my newsdealer's, I brought it back to school after dinner. I am speaking of the February number. I very much enjoyed the Dr. Bird story. Capt. Meek is always good. "Phalanxes of Atlans" promises to be an excellent story, also.

What I want to know is, why are so many mossbacks throwing brickbats? What does it matter if some of the stories are not on the scientific chalk line? A very wise man once said that "Variety is the spife of life," so why not take a hint, some of you would-be brickbat pitchers, and pipe down?

I have read every issue of Astounding Stories published so far, and have not a brickbat to report as yet. I notice in one letter to "The Readers' Corner" a request for a department on rocket propulsion. I presume the writer meant on propelling rocket planes. I have experimented on rocket ships for the past three years and can give some data on these as to the construction of models (for when I say ships I really mean model airplanes). I have had this as my hobby for the past four and a half years, and can give extensive information on model building. I specialize in models powered by power other than rubber; and I took second place at the Atlantic City Tournament, held in October by the National Play-

ground Association, in the Annual National Championships.

Anyone desiring information on the rocket ship or any other type of model plane will be promptly answered by addressing their letter to me.

I hope you will find room to publish this, as I like nothing better than helping someone get started on my favorite hobby, aviation. I have, however, several hobbies, including football, basket-ball, tennis, swimming, boating and hiking. I live within ten miles of the Great Smoky Mountains National Park, and can see from the study hall window, whic. I now am seated next to, three ranges of the mountains all covered with more than ten inches of snow.—Richard M. Evans, Box 305, Maryville, Tenn.

To the Defense

Dear Editor:

Some of the letters you have printed in "The Readers' Corner" almost burn me up. Edwin C. Magnuson asks you what you print there: only letters praising your magazine to the skies? or occasional brickbats? Well, I might say one thing, and that is: if you did print all brickbats, as he seems to want you to, the Readers would think that your magazine wasn't of much account if that was the kind of letters you got all the time, and would probably quit reading it.

He also said he felt like quitting several times because the stories weren't scientific. Well, if he can show me anywhere on your magazine where it says it is a scientific magazine, I'll certainly beg his most humble pardon on bended knee. He also crabbed about your artists. If he can do better, I advise you to hire him. He also says that the paper is rotten, and that after a few handlings goes to pieces. I still have all my magazines, and have lent them several times, and the paper is still there. On his fifth statement I agree with him: you should have an editorial. Also I would certainly like to have reprints, as there are about six issues I didn't get, and I imagine there are several other Readers in the same boat.

Hume V. Stephani makes a very good suggestion about a quarterly. I certainly think it would be appreciated and would go over big. And Robert J. Hyatt, I most certainly agree with you in your letter printed in the February issue; and if this letter is printed (which I hope it is) I hope you will see it, and know that at least one person has the same views on the magazine that you do.—Buel Godwin, 101—3rd Avenue, S. E., Le Mars, Iowa.

"Now a Real Pest"

Dear Editor:

I have recently been initiated into the reading of Science Fiction, and as a result I am now a real pest to the magazine vender, from asking for the next copy of Astounding Stories. I have just finished your February copy and words can't express my enjoyment.

"The Tentacles from Below" is indeed a Science Fiction masterpiece. I devour eagerly Captain S. P. Meek's stories about Dr. Bird. As long as you keep Meek you can be assured that I will purchase this magazine. "The Pirate Planet" proved to be a story worthy to be kept as a reprint for future issues. In fact, many of your stories are so good that it is a shame that others can't enjoy them in future issues of Astounding Stories.

Wesso is a great artist and I appreciate to the fullest extent his remarkable pictures.

Yours for a continuation of your present success in editing and publishing remarkable stories.—Lester P. Lieber, 542 Dalzell St., Shreveport, La.

Stands Pat

Dear Editor:

Although this is my first letter to "The Readers' Corner" of your publication, I have nevertheless been a consistent Reader of the magazine since its inception. Contrary to many of your correspondents I have nothing to say against your magazine or policy. I like its size, its artists and most of its stories. I shall not bother to name those I do not like because I do not believe that there is a magazine to be found that can publish stories to suit all its Readers.

I enjoy the serials and your two-part novelettes since it gives one something to look forward to each month. I enjoyed "The Pirate Planet," by Gharles W. Diffin so much I was sorry to see it end, and I hope there will be more of his work in the future. I am particularly glad to see such writers as Captain S. P. Meek, Ray Cummings, Miles J. Breuer, Victor Rousseau and Harl Vincent as regular contributors to your pages, but there are also a number of other writers whom I miss seeing in "our" mag. Of these are A. Hyatt Verrill who writes so well of the Incas, Otis Adelbert Kline who also gives us excellent stories and Leslie F. Stone whose "Men with Wings" and "Women with Wings" appeared in another magazine and which I enjoyed exceedingly. I believe that to have these writers as regular contributors would add much to the interest of the publication.

With the compliments of an avid reader of Science Fiction, I salute you.—Theodore Morris, 1412 S. W. 13th St., Miami, Fla.

"Under My Collar"

Dear Editor:

I have been reading Astounding Stories for a good while and I like it fine. I noticed in your last issue that a fellow by the name of Edwin C. Magnuson was kicking about "The Readers' Corner." Some of his reasons, I think, for not liking this magazine are as follows: first, the

illustrations are poor. I believe they are good. Second, he says that he doesn't like stories such as those written by Charles W. Diffin, Jackson Gee, Murray Leinster and Victor Rousseau. He also has in his letter a list of authors whose works he likes. I do not think they are so hot, with the exception of Capt. S. P. Meek. Mr. Magnuson also says he is disgusted with Astounding Stories and would like to quit reading it. Well, why doesn't he?

I want to say it is a fine mag. I don't like to be a critic, but that fellow got under my collar. The only thing that could be done is to publish it at least twice a month.

Well, reckon I will sign off. Here is to Astounding Stories. A better mag can't be found!—Boyd H. Goodman, 2008 McKinney Ave., Dallas, Texas.

From Franklin to Poe

Dear Editor:

As a Reader of Astounding Stories from the first number I would like to comment on your magazine regarding your stories and the subject of reprints.

First, you are publishing one of the best Science Fiction magazines on the market, and I read three of them. And although I agree with Mr. Magnuson and others on the subject of reprints, I do not agree with the former that the paper is rotten and falls to pieces. I have a complete file of Astounding Stories to date and I have not noticed any signs of disintegration amongst them as yet.

You could easily follow the suggestion of Mr. Stephani, and have a space for good reprints and charge a nickel more. I believe most of your Readers would approve of it.

The story, "The Sunken Empire," was fine, and it is to the credit of Science Fiction that in addition to interesting Readers in other worlds it has also created an interest in the fate of lands from which the Atlantic Ocean received its name. This story is reminiscent of a story which appeared in The Saturday Evening Post about three years ago called "Maracot Deep." In this story a party of men (three, I believe) descended to the bottom of the Atlantic and found a surviving colony from Atlantis, and saw reproduced on a screen events leading up to the sinking of Atlantis. It was written by the late Sir Arthur Conan Doyle, and the only weak spot was that Sir Arthur had to change the submergence of Atlantis from a natural catastrophe into a "judgment" of the gods, whose sense of propriety was outraged by the "wickedness" of the Atlanteans. If you reprinted this story your Readers would eat it up.

I hope that you publish this letter because I want to reply through your "Readers' Corner" to Mr. Richard Lewis of Knoxville, Iowa, on the subject of reprints.

Mr. Lewis says he has read most of the classic scientific stories referred to. Well, so have I, but I should like to read many of them again would many of your Readers. I have for the last twenty years been reading literary classics, but when I receive my copies of Good Literature or The Golden Book I do not consider myself cheated because I find some stories in them that I have read before. The best are always worth read.ng at least twice.

As an illustration, has Mr. Lewis ever read the following: the "Kasidah," by Sir Richard Burton, who gave the world its best literal translation of "The Arabian Nights, which differs as daylight from dark in comparison with the Lane and Payne translations which are only edited for children to read? Or has he read the chapter which Benjamin Franklin added to the Bible? If Mr. Lewis read these for the first time in any magazine he takes he would no doubt consider them well worth the price of the magazine or more, yet they would be reprints, the last about as old a. the United States.

The "Kasidah" is a long poem on philosophic aspects of evolution in which almost all Science Fiction Readers are interested. It contains lines like the following:

> "Conscience was bred
> When man had shed
> His fur, his tail
> And pointed ears.

And as a dissertation our caveman ancestors:

> "They fought for women as for food,
> When 'Mays' awoke to warm desire;
> And this the lust that changed to love
> When fancy lent a purer fire."

Regarding the Franklin chapter, it is stated that "Wise Old Ben" used to insert it between the pages of the Bible and read it to his friends in the City of Brotherly Love, and great was the consternation of many who thought they knew the Scriptures from "kiver to kiver."

Any new Readers of Science Fiction would be glad to read "The Girl in the Golden Atom," "The Fire People" and "The Man Who Mastered Time," by Ray Cummings. I like to read this author's work, but I believe when he wrote this trilogy of Matter, Space and Time that he reached the heights of his writing. I have never read any subsequent writings of his that I thought exceeded them.

Speaking of the necessity of authors eating, Mr. Lewis states that good stories have never been written on an empty stomach.

Edgar Allan Poe who wrote "Shades" was one of the most brilliant of American writers, and his stomach was empty most of the time. And when this master of ratiocination had on rare occasions a full stomach it was invariably full of "hooch."

As Mr. Lewis speaks as a pedagogue, is it not a physiological fact that an empty stomach clears the mind by diverting the blood stream from the necessity of digest-

ing food? And while I am not advocating any fast cures for authors, some of them (although few in Astounding Stories) would be greatly benefited by trying it.

In conclusion I should like to say to Mr. Lewis and others who take the same slant on reprints, that there are many of the finest writings in Science Fiction and the classics which you and I have never even heard of, much less read.

I will close with best wishes for your continued success.—Joseph R. Barnes, Cache Junction, Utah.

Now Feeling Better

Dear Editor:

Well, I guess I've just about gotten you exasperated with all the brickbats I've been cannoning into your office. However, I believe this letter will make you feel a little better.

The latest issue was fine. There wasn't a story in it that I didn't enjoy. "The Tentacles from Below" was a surprisingly good story, especially when you consider that I don't like sea stories. I liked this one very much.

Another extremely great surprise was "Werewolves of War." From the few notes about it I surmised that it was another one of those hero-dying-and-saving-his-country stories; and it was—but not the kind I expected it to be. The author's narrative and descriptive abilities were such that I forgot all about the plot running throughout the story. Hang on to that fellow.

The other complete story was also good. The conclusion of "The Pirate Planet" was also good, as were its preceding instalments. The first instalment of "Phalanxes of Atlans" was unusual. That's gonna turn out to be one of the best stories you've yet published, or I miss my bet.—G. Kirschner, Box 301, Temple, Texas.

"Paper Is Durable"

Dear Editor:

While reading "The Readers' Corner" in your January issue I noticed a bit of criticism by Edwin Magnuson of Duluth, Minn. In it he said that you have printed some stories containing little or no science. But, first, most of your Readers like a little change in a subject and I advise one or two of these about two or three months apart. Second, the paper is of durable material, for I pass my magazine to my friends who read it and then return it with very few pages torn. Third, I agree that reprints would be a blessing, for most of your readers have not read stories by Cummings, Breuer, Wells and Vincent. Fourth, the fact that some stories have not a sound scientific basis is quite all right because every fair reader likes his stories fired with some imagination.—Walter Witte, 960 Duchess St., St. Paul, Minn.

Suggestions

Dear Editor:

Although I have read every issue of A. S. since it came out, I have never written about it, and this is what I have to say:

First, it is just as good or better than two other Science Fiction magazines that I can name.

Second, in my opinion you have some of the best modern authors, such as Cummings, Meek, Rousseau, Diffin, Vincent and Hamilton. Also others.

The stories have been A-1 with the exception of "Murder Madness," which, in my opinion, does not belong in a magazine of this type, but in a detective story magazine, because that is all it was—a detective story. And when are you going to have a sequel to "The Gray Plague," by L. A. Eshbach which appeared in the November issue? It deserves one.

The best author on your staff is Captain S. P. Meek, whose Dr. Bird stories cannot be equalled. They are science stories plus.

A few suggestions: an occasional reprint. It would not affect the living conditions of our present day authors and would give us all a chance to read a classic of yesterday.

Do not change the size (i. e., width and length); but as for enlarging it in the thickness direction, you have my heartiest encouragement. I notice that one of the other magazines has changed its size, so now you are not alone. Evening up the edges of the sheets would improve the looks, however. And now that you have had your first birthday, when are you going to start a quarterly? In it you could publish a complete book length novel and seven novelettes. By novel, I mean a story of about one hundred pages or more of your present size, and novelettes fifty pages or more. You could double the price because a quarterly is worth double what a monthly is worth.

Your artists are great, but you could still improve by having them make a full page illustration at the start and one more exciting one as the story progresses.

Well, I think I've said enough good things about you and enough suggestions, so until January 1932, adios, au revoir, etc. —Henry Benner, Cowiche, Wash.

Ouch!

Dear Editor:

Personally, I would much rather read a good short story than the ten pages of instructions by Readers published in the March issue. Two pages are plenty, especially when half the criticisms concern paper, size, edges of paper, etc. A. S. is O. K!

How about that other short?—Don Ward, 6 Ketchel St., Auburn, N. Y.

Likes Action

Dear Editor:

I have just finished the February issue of Astounding Stories. All of the stories were so good I couldn't tell you which one is the best. "The Phalanxes of Atlans" and "The Tentacles from Below" were very good. I liked "The Black Lamp," too. It is up to the standard of the rest of the Dr. Bird stories. "The Pirate Planet" ended very beautifully. However, I did not like that about Sykes getting killed. "Werewolves of War" was good. It ended differently from most of the other stories. Most of them end with the hero escaping, but in this the hero was killed. It had a very good plot.

I got my first copy of Astounding Stories last July and I haven't missed a copy since. Why not put out Astounding Stories twice a month or make it a weekly? I hate to have to wait a whole month before I get another copy.

I believe that the best story I have ever read in this magazine was "The Invisible Death," by Victor Rousseau.

The reason I like Astounding Stories better than any other Science Fiction magazine is that most of the other magazines have too much science and not enough action.—Dale Griffith, 437 Carson St., San Antonio, Texas.

"To Satisfy Myself"

Dear Editor:

It has been long since I read the February issue of your magazine and I'm waiting anxiously for the March issue.

The February issue had some very good stories, and I just must say that the story entitled "Werewolves of War," is the best story of its type I have ever read. Unlike most of these stories there is more future truth than fiction.

Perhaps you didn't expect to hear from me so soon again, but I am interested in this type of story as I used to write this kind in my English class back in high school. My stories were of this type, but always different from any that the rest of the class wrote. Another thing, I love to be writing, so I take this way to satisfy myself. I do hope you will excuse me.

I have one more thing to say and that is: I only wish your magazine was put out every two weeks instead of every four; or, print more stories and raise the price to twenty-five cents. I'm sure people will pay if they are as interested as I. —Ken F. Haley, 52 Mechanic St., Lebanon, N. H.

"Easier to Turn"

Dear Editor:

I have just read "The Readers' Corner" of the March issue and noticed that bright remark about that super-rotten story, "Skylark Three." Anyone who liked that story is certainly not hard to please. It does not compare with the worst story ever published. I also read that "other magazine," and I say that it has disgraced itself by "Skylark Three."

Everything is perfect about your magazine except that there are not enough stories in each issue. The uneven edges are just fine, for it makes the pages easier to turn. The covers are not too gaudy. The covers should depict a thrilling incident in a story; they do.

"Phalanxes of Atlans" offered a good theory as to the whereabouts of the descendants of the Atlanteans and the Lost Tribes of Israel. It was keen.

I conclude my letter with a warning: do not change your type. Also do not change your order of issue; I mean, do not make your magazine into a bi-monthly as I see some magazines of this type have done.—Robert Leonard Russell, 825 Casey Ave., Mt. Vernon, Illinois.

You Tell 'Em!

Dear Editor:

I have always considered the drawings of H. W. Wesso far superior to those of all other Science Fiction artists, and, indeed, much better than the work of most pulp magazine illustrators. But his cover for the March issue of Astounding Stories was remarkable even for him; it was a veritable masterpiece.

So enthralled was I by first sight of this eye-arresting picture that I stared at it for minutes on end. That snarling titan with his mighty arm outstretched toward the tiny figures just beyond his reach—what a gripping tableau!

Free from the superfluous, uninteresting machinery and apparatus that clutter up most illustrations in other Science Fiction magazines, your March cover remained fantastic, but human—a picture that expressed the very essence of superscientific fiction as presented in Astounding Stories. Vivid in color, striking in subject, dramatic in treatment and drawn with consummate skill, that cover must have attracted many new Readers to this magazine.

And the promise held out by the cover was more than fulfilled by the contents of that issue—one of your best to date. The only discordant note in the entire magazine was the yapping and ranting of certain dissatisfied ——— [censored] too ——— [censored] to appreciate the finest, most worthy publication in its field to-day. —Booth Cody, Bronx, New York.

"Nothing Is Automatic"

Dear Editor:

First, I wish to congratulate you on the increasing quality of your magazine since its first issue. It surpasses all other Science Fiction magazines, and I haven't missed a single issue and don't intend to!

What prompted me to write this letter was an article, "A Robot Chemist," published in your March, 1931, issue. In the article it states that a mechanical robot

performed several experiments without human supervision. But, I am sorry to say, I disagree. Nothing is automatic. Foolishly, after perfecting anything that performs its work afterwards by itself, man calls it an automaton. But it is not! Did he not have to work and slave hour after hour, day after day and month after month to perfect it? He did! Ever since man became civilized he has deceived himself by calling, for instance, machinery in a factory, automatons. The quest for automatic machinery is as hopeless as the quest for perpetual motion!

What is my idea of an automaton? Well, take a robot for instance. Man calls it an automaton in spite of the fact that he had to slave to put it together before it did its work.

My idea is this: the iron ore would come out itself, smelt itself, form itself in the various shapes and parts needed to construct a robot, then take its correct place and rivet itself. Then the radio brain, electrical eyes and magnet hands take their place; and when it has constructed itself it will conduct the experiments—if a chemical robot—without human supervision. Thus, the latter clause would be true! That's my conception of an automatic robot! Otherwise, its just some metal doing the bidding of a master's brain.

Another thing: the novelette "Beyond the Vanishing Point," by Ray Cummings, is preposterous. The flesh might shrink or grow, but the bone would not! If one shrunk as did George Randolph, one's bones would burst through the flesh.

But in spite of all that, I like the stories that way. Science, in the years to come might discover how to shrink or grow both flesh and bones. I guess I'm taking too much of your time, so adios!—Jay Zee, Chicago, Illinois.

Hot Times in the Fire House

Dear Editor:

The first Thursday in each month I make a bee-line for the newsstand—and Astounding Stories. It may interest you to know that I have every issue on file that you have put out.

There have been some mighty good yarns in those issues, but the one just at hand contains the best story you have ever published—"Terrors Unseen," by Harl Vincent. There's an author for you; but evidently I don't have to tell you so, as you have given us quite a number of his splendid stories. "Vagabonds of Space" was a wow. Like some of the others who have written in, I would like to see a sequel to this. Harl Vincent is my favorite of all your authors.

A close second is Charles W. Diffin. He is good, too. As your authors appeal to me, in order, I mean, I would line them up in this way: Harl Vincent, Charles W. Diffin, R. F. Starzl, Ray Cummings, Capt. S. P. Meek, Jack Williamson and Murray Leinster.

I agree with Jim Nicholson of San Francisco that you should give us some stories by Francis Flagg. Here is an author you never have published, and, to my way of looking at things, he has more fresh material than most of the authors put together. Many of the things that have been copied widely and used extensively (I don't mean that whole stories have been stolen, or anything like that) were originated by this fine writer. By all means get Francis Flagg. [We have just bought a story—a good one—from him!—Ed.]. He would stand about third in my list if you had used his work before. I made it up from those whose work has been used.

Two or three things I notice that I would have you correct. All your stories seem to be of standardized length, either around 10,000 words or 25,000 words. Eliminate all restrictions as to word length but make your writers boil down their work. Most stories are too long, and could be told better if cut down quite a bit. The paper and the page size of the magazine are okay, but why not smooth edges? And it is hard to keep the covers on. I wouldn't object to more pages or an extra nickel in price. Or if not that, how about publishing "our" magazine twice a month?

After fighting a fire, there's nothing like Astounding Stories with which to "unlax." You're doing a fine job, and I only make these suggestions because I want a "perfect" magazine instead of one that bats 97% all the time. Hope you'll have room for all this. And, oh yes, keep on with your program of "No reprints." Your new yarns are better than the old ones. Let's have the new ones, and encourage our fine string of authors to do even better work.—Gayl Whitman, Fireman, Co. No. 11, Main at 22nd, Columbus, Ohio.

Correspondents Wanted

Dear Editor:

Another critic is going to take his pen in hand and give you a bouquet. I have just finished reading the March issue of A. S. and think it was fine.

Of all the stories you have published I liked "The Gray Plague" the best. I don't care much for reprints because I like new stories the best.

I would like to correspond with some of the Readers of A. S. I will answer any or all letters I receive.—L. B. Knutson, 629—3rd Ave., So., Minneapolis, Minn.

A Heroine a la Mode

Dear Editor:

I'm with J. H. Nicholson, who advises those who are indifferent to the scientifically possible in order to give the author a broader field in which to lay his plot. As he says, they should feel right at home with their noses stuck into a volume of Anderson's Fairy Tales. How-

ever, this letter is more to express the science lovers' viewpoint than to sling mud at the authors. For us, the plot loses much of its kick if the science is not reasonable.

Suppose for once that one of these Readers who waives scientific possibility aside as secondary should pick up a plot-distorted story in which the heroine should be described something as follows:

"Hers was a tall superbly built figure combining the strength of a horse with the gentle curves of a hippo. When she spoke, her sweetly modulated voice was as pleasant to the ear as the bray of a Spanish jackass. Her hair hung to her waist and was the convenient nesting place for several English sparrows. She was slightly cockeyed from birth and had had her nose squashed in a saloon brawl. She carried herself with the graceful dignity of an African orang-utan and was always much sought after, having a quaint habit of slapping every new male she met a resounding whack on the back that loosened their bridge work. Being a veteran tobacco chewer and having high blood pressure she could spit one hundred feet against a fifty-mile wind. When she ate in company, she had an amusing way of gargling her soup in G-flat. Her—"

It's unnecessary to go further. Such a character would be every bit as reasonably possible as some of the science these science-conniving Readers are willing to sanction.

Here are some of the seemingly impossible feats of a recent story: 1—a diver in an ordinary diving dress is able to stand the pressure at three miles down; 2—(granting the above is possible) a diver shoots up three miles without stopping and still does not become a victim of the bends; 3—(granting the above two possible) a diver after shooting from such a great depth and pressure to a depth of comparatively low pressure would not be able to lower the pressure inside his dress, since it would be held so rigid that he would not be able to bend his arms; 4—a man or animal suddenly released from the enormous pressure of about three hundred tons to the square inch to atmospheric pressure, it seems, would most certainly burst before the internal pressure could equalize itself.

Please notice that I said seemingly wrong. I'm for A. S. just one hundred per cent and would prefer to have it as right as possible. I don't like crank letter writing and would never have written this now if it hadn't been for several of the letters in the March issue that gave me a touch of hades under the collar. S'long. Maybe I'll write again sometime when I get some more "ham science" ideas.—William S. Loesch, 1 Morrison Ave., Troy, N. Y.

You Make Them Adequate

Dear Editor:

Thanks. Of course I accept your invitation to "The Readers' Corner." I have been a constant Reader of your magazine since its appearance on the Science Fiction horizon, and I have yet to meet a story that I failed to read in its entirety or that I didn't like.

To merely write a letter and say that this story was good, the other story was fair, and oh my! how poor the third story was, is futile. But as it is the usual custom to do so here goes:

Excellent stories—all of the first five volumes; good stories—who's interested?; poor stories—where are they?; good authors—takes up too much room and time; poor authors—got tired looking for them.

All I want to say is, Astounding Stories is the best or one of the best magazines on the market. Gee, but aren't words futile when you describe something great and wonderful!—Herbert Goudket, 707 Jackson Avenue, New York, N. Y.

Ain't It Too Awful!

Dear Editor:

I knew it. It was bound to come. At last my efforts have been rewarded. Fame has sought me out—even in Brooklyn. It was suggested in the March issue of Astounding Stories that I, Louis Wentzler, as one of the active contributors to "The Readers' Corner," regale your Readers with a description of myself, my interest in Science Fiction and how I got that way. A picture was also requested, but that had better be omitted. As for my personal history, bend an ear:

At the tender age of four, while making mud pies on the doorstep of my home, I was beaned by a brick hurled by an uncouth ruffian across the street. The results were not fatal—who said "unfortunately?"—but from that moment I developed a taste for Science Fiction. Had it not been for that incident I might have grown up a normal lad; but the caress of that brick on my cranium did things to me, and I have been a Science Fiction addict since.

Of course, I do not contend that all Science Fiction fans were hit by bricks, though a lot of them should be. I do believe, however, that a slight concussion of the brain helps one appreciate Science Fiction the more. Anyway, once imbued with the urge I took to Science Fiction like a Hindu to hashish. Such stories were rare in those days, but I started to collect all I could find.

Then came the war. I was too young to fight, but I did my bit making canteens out of old sieves. That was how my mind worked, you see. Well, the war ended—I forgot who won—and I went back to my beloved Science Fiction. Years have passed since then, and I have a fine collection of stories now. Should any of you care to see them, come around to the local booby-hatch some time: you'll find me in Padded Cell No. 17.—Louis Wentzler, 1938 Woodbine St., Brooklyn, N. Y.

Hurrah!

Dear Editor:

Except for a brief letter of criticism in the August, 1930, number of Astounding Stories, I have been a silent but loyal follower of the magazine since its first issue. My silence was that of profound satisfaction. Almost all the stories suited me to perfection; and the few I did not like were hardly worth commenting on. Since the magazine has grown better with every issue I would probably have kept my peace; but there is one disturbing factor which impels me to write again.

I refer to the irresponsible outbursts of certain ——— [censored] who squeeze into "The Readers' Corner" and sputter out senseless denunciations of the magazine, its appearance, its policies, and so on. I do not object to logical, well-founded criticism, but I most decidedly do object to the ——— [censored] remarks and invidious comparisons indulged in by various ——— [censored] Readers. It's about time someone told them where to head in, and, by your leave, I'll do it.

The most recent offender is J. Vernon Shea, Jr., a Pittsburgh lad of eighteen who, in the March issue, ventures to criticize the grammar of Ray Cummings, call the Editor harsh names, and demand that the magazine conform to his own dizzy notions. He concedes that Astounding Stories prints consistently interesting tales, but charges that the Editor is indifferent to "the advancement of Science Fiction." Mr. Shea, can't you see that the publication of first-class stories, as in this magazine, is the best possible way to popularize Science Fiction? Or do you simply prefer inferior stuff?

Then there's D. R. Guthrie, from way back in Idaho, who liked a yarn in another magazine so much he had to tell us all about it—as if we didn't have the best Science Fiction ever written right here in Astounding Stories. Guthrie's another who seems to prefer brass to gold.

Going back an issue or two, we note a letter from Edwin Magnuson, a deluded denizen of Duluth, who says he's plumb disgusted because Astounding Stories receives far more bouquets than brickbats, when according to him the mag deserves to be panned plenty. Get in step, Edwin, you're falling way behind!

And I mustn't forget M. Clifford Johnston of the Newark Johnstons, who calls Astounding Stories trash and its Readers morons. Well, there are various degrees of mental incompetence, and the moron is far above the idiot, Mr. Johnston!

Now that I've taken a few lusty pokes at those who most deserved them, I'll give my own comments on some of your latest stories—and anyone who feels like telling me where I get off is welcome to do so.

First, let me take my hat off to Jack Williamson. I never thought much of his stuff in other mags, but his "The Meteor Girl" was a mighty fine piece of work. Evidently you've got to be good to crash Astounding Stories. Interesting as it was, though, Williamson's yarn contained a noticeable error. In the story, the narrator and his friend witness an event occurring twelve hours in the future at a distant place. They then travel to that place, reaching it at a time exactly corresponding to the time of the event witnessed. Therefore, they should have seen themselves in the future scene—an obvious fact which the author either failed to consider or coveniently ignored. [But—by the story, they did not arrive at the rock until just AFTER the events they witnessed by means of the fourth dimension. Thus, everything is O. K. Take another look.—Ed.] Despite this flaw the story embodied several original ideas, had plenty of action, and was well told. We can stand more of Williamson.

"Phalanxes of Atlans," by F. V. W. Mason, was a corker. When writers of Mason's standing turn to Science Fiction, we fans have much to be thankful for. Is there any chance of our getting a story by Fred MacIsaac, Theodore Roscoe, or Erle Stanley Gardner? All of them are first-class writers, and they can handle Science Fiction better than many who have specialized in that field. The only other suggestion I can offer for improving the magazine is to have additional illustrations within the stories, such as Wide World Adventures used to have.

Satisfied as I am with Astounding Stories it will probably be a long time before I write again—unless I feel called upon to administer a few more verbal spankings to certain obstreperous individuals!—Sears Langell, 1214 Boston Road, New York, N. Y.

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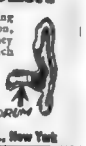

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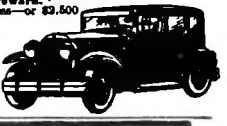

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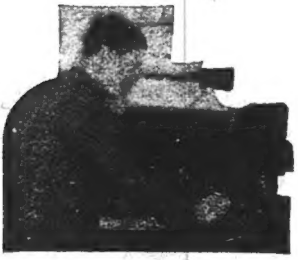

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